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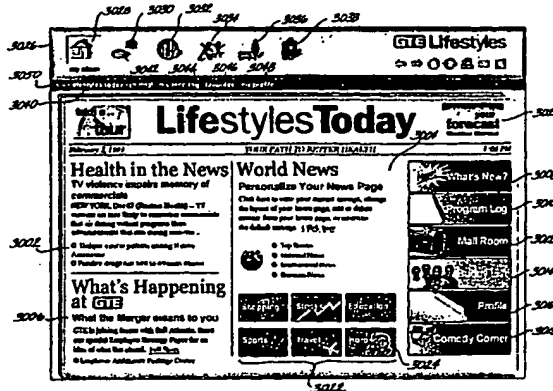
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(54) Title: BEHAVIOUR MODIFICATION SYSTEM WITH PERSONAL PORTAL



(57) Abstract: A behaviour modification program, compliance monitoring and feedback system includes a server-based relational database and one or more microprocessors electronically coupled to the server. The system enables development of a behavior modification program having a series of milestones for an individual to achieve lifestyle changes necessary to maintain his or her health or recover from ailments or medical procedures. The program may be modified by a physician or case advisor prior to or during implementation. The system monitors the individual's compliance with the program by prompting the individual to enter health-related data, correlating the individual's entered data with the milestones in the behavior modification program and generating compliance data indicative of the individual's progress toward achievement of the program milestones. The system also includes a personal portal integrated with the behavior modification program for encouraging use of the system on a regular basis. The personal portal provides customizable and personalized access to Internet sites and other sources of information which suit the individual interests of the user. The personal portal further provides access to tools and educational materials germane to the user's personalized behavior modification program. Through the interfaces, the individual and case manager can access the database to review the compliance data and obtain health information from a remote source such as selected sites on the Internet. The system also provides an electronic calendar integrated with the behavior modification program for signaling the individual to take action pursuant to the behavior modification program in which the calendar accesses the relational database and integrates requirements of the program with the individual's daily schedule, and an electronic

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journal for enabling the individual to enter personal health-related information into the system on a regular basis. In addition, the system includes an electronic meeting room for linking the individual to a plurality of other individuals having related behavior modification programs for facilitating group peer support sessions for compliance with the program. The system enables motivational media presentations to be made to the individuals in the electronic meeting room as part of the group support session to facilitate interactive group discussion about the presentations.

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## BEHAVIOUR MODIFICATION SYSTEM WITH PERSONAL PORTAL

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### FIELD OF THE INVENTION

5       The present invention relates generally to a computer-implemented system for promoting health, wellness, and achievement of goals through lifestyle change, and more particularly to a behavior modification system incorporating a personal portal.

### BACKGROUND OF THE INVENTION

10       Every individual has fundamental set of core needs including, for example, health, security, and community. These needs can further be prioritized: More fundamental needs are preferably met first to insure survival. Once these needs have been satisfied, the individual can address and satisfy other core needs essential to his or her happiness and sense of fulfillment. In order to satisfy core needs, individuals must often make lifestyle changes. For example,  
15       individuals who are recovering from a surgical procedure such as a heart bypass, or are suffering from diabetes, must often make lasting lifestyle changes in order to satisfy the core need for health and wellness. Even people who do not suffer from particular ailments are known to benefit from healthy eating, exercise, and stress management. Individuals who are successful in making and adhering to positive lifestyle changes are likely to benefit from increased vitality,  
20       well-being, and self-confidence. Health and wellness can therefore provide the foundation for an individual to go on to satisfy other important but less fundamental needs, such as those involving career goals and other forms of self-expression.

      At present, however, most programs for helping individuals make lifestyle changes involve doctors visits, self-help programs, seminars, or literary materials that provide information  
25       to the individual about the benefits of behavior modification and lifestyle change. These conventional methods are often ineffective in causing behavior modification because there is little or nothing in the way of an on-going support mechanism to assist the individual in making the recommended behavior modification, and little integration with the daily routines of an individual's life. The described methods are therefore insufficient for motivating the user to make  
30       the recommended changes, and further insufficient for monitoring compliance with such recommendations.

      Participation in on-going support programs is often effective for users who have undergone surgery and must make subsequent lifestyle changes, but currently available in-person  
35       programs involve costly medical staff and facilities. It is also often inconvenient for those users to travel to such programs on a regular basis. Because of their cost and the potential for inconvenience, many support programs last only for a limited time that is generally insufficient for the user to modify behavior thoroughly and effectively.

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Another disadvantage of existing lifestyle modification programs is the lack of information readily available to the physician or other health advisor regarding the user's compliance with the program. In order to monitor user compliance, the individual must make frequent visits to the physician. In addition, the user might be required to track his or her behavior and/or vital statistics on a regular basis and provide such information to the physician. These tasks are often cumbersome to the user, causing him or her to avoid behavior modification programs in their entirety.

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Accordingly, there is a need for a behavior modification, compliance monitoring, and feedback system that is able to effectively motivate individuals to participate in a behavior modification program designed to assist individuals to satisfy their core needs. Such a desirable system would be easily integrated into an individual's personal lifestyle and as conveniently as possible encourage him or her to make use of the system as part of a daily routine. Computer-based tools, such as customizable access to Internet sites and sources of information, can accomplish this goal by catering to the individual interests of the user. A desirable system, therefore seamlessly integrates with the individual's daily routine, and enables the user to conveniently access tools and educational materials germane to the user's behavior modification program.

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In addition, the system should enable physicians, their staffs, or other health advisors to receive frequent feedback on the individual's compliance with his or her program. With the present push toward low cost yet high quality health care, a system by which health advisors could readily access information on user compliance has clear benefits. It would also be desirable to allow the system to provide access to aggregate reviews of compliance information by health plan payors, such as HMOs, insurance companies, and large self-insured employers, for the purpose of enhancing the efficiency of managed health care.

#### SUMMARY OF THE INVENTION

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The present invention therefore provides for an integrated, computer-implemented, electronically deliverable user behavior modification program, compliance monitoring, and feedback system which provides: a behavior modification program having a series of milestones for a user; accepts the input of data, such as health-related data, from these users at prescribed times; correlates the data using a microprocessor with the milestones in the behavior modification program to determine whether the user is complying with the program; groups particular data using the microprocessor and linking the particular data to a remote computer; and provides a personal portal integrated with the behavior modification program for encouraging use of the system on a regular basis. A personal portal preferably infuses the Web portal site concept with a new depth of personalization. The personal portal provides customizable access



1 to Internet, intranet sites or other sources of information which suit the individual interests of the user, and provides access to those tools and educational materials germane to the user's personalized and unique behavior modification program. It responds to individual priorities and  
5 interests and helps create and support the lifestyle best suited to each user by promoting and supporting the modification of health-related behaviors.

According to another embodiment of the invention, the personal portal automatically provides access to Internet sites or other sources of information based on the individual parameters of the user's program. According to a further embodiment, the personal portal  
10 monitors the user's progress toward achievement of program milestones and displays articles and resources for aiding achievement of the milestones. In this way, the system helps enhance user compliance with his or her personalized and unique behavior modification program.

#### BRIEF DESCRIPTION OF THE DRAWINGS

15 These and other aspects of the present invention will become more apparent from the following Detailed Description of a presently preferred embodiment of the present invention read in conjunction with the accompanying drawings and exhibits, in which:

FIG. 1 is a block diagram illustrating how feedback and monitoring is used in the current embodiment of the behavior modification program's compliance monitoring and feedback  
20 system;

FIG. 2 is an exemplary screen for inputting an individual's personal information into the system;

FIG. 3 is an exemplary screen for inputting an individual's medical information into the system;

25 FIG. 4 is an exemplary screen for inputting an individual's medication information into the system;

FIG. 5 is an exemplary screen for inputting an individual's behavior modification interests into the system;

30 FIG. 6 is an exemplary screen for selecting vital statistics to be tracked by an individual as part of his or her behavior modification program;

FIG. 7 is an exemplary screen for selecting exercises to be performed by an individual as part of his or her behavior modification program;

FIG. 8 is an exemplary nutrition program suggested by the system, which may be modified by a health advisor;

35 FIG. 9 is an exemplary screen depicting an individual's compliance with his or her behavior modification program;

FIG. 10 is a graphical representation of a set of files for users for whom recovery programs may be designed or modified;

FIG. 11 is a graphical representation of an exemplary user file taken from among those represented in FIG. 11;

FIG. 12 is a graphical representation corresponding to the Program Design option of FIG. 12;

FIG. 13 is a graphical representation corresponding to the Program Detail option of FIG. 13;

FIG. 14 is an exemplary prescription form for inputting a user's baseline vital factors;

FIG. 15 is an exemplary user progress report;

FIGS. 16A-16G are flow diagrams of an exemplary process for accessing behavior modification tools and educational materials through a personal portal;

FIG. 17 is an illustration of an exemplary home page provided by the personal portal in accordance with a preferred embodiment of the invention;

FIG. 18 is an illustration of an exemplary Overview page of an electronic journal accessible through the system;

FIG. 19 is an illustration of an exemplary Program Log page of the electronic journal of FIG. 18 depicting a user's overall participation in his or her behavior modification program;

FIG. 20 is an illustration of an exemplary Program Log page of the electronic journal of FIG. 18 depicting individual elements for behavior modification;

FIG. 21 is an illustration of an exemplary Scheduler page of the electronic journal of FIG. 18;

FIG. 22 is an exemplary screen displayed upon selection of a My Meeting option for allowing an individual to access video presentations through a Show Video option and join electronic meetings through a Join Meeting option;

FIG. 23 is a graphical representation of an electronic meeting room upon selection of the Join Meeting option of FIG. 22;

FIG. 24 is a graphical representation of an electronic Coffee Shop for allowing individuals to chat and interact with one another;

FIG. 25 is an exemplary screen for enrollment into the system's membership directory;

FIG. 26 is an exemplary screen for displaying future electronic meeting topics;

FIG. 27 is an exemplary screen for displaying future electronic meetings related to Cardiac topics;

FIG. 28 is an exemplary screen for submitting membership directory search criteria;

FIG. 29 is an exemplary results screen for displaying a list of members matching the search criteria submitted via the screen of FIG. 28;

FIG. 30 is an exemplary screen showing food and diet related articles and informational materials;

FIG. 31 is an exemplary electronic food diary for inputting and/or viewing food intake information;

FIG. 32 is an exemplary recipe finder for searching recipes based on a type of meal course;

FIG. 33 is an exemplary recipe finder for searching recipes based on the various parameters;

FIG. 34 is an exemplary recipe finder for searching recipes based on an individual's dietary requirements;

FIG. 35 is an exemplary recipe retrieved by the recipe finder of FIGS. 32-34;

FIG. 36 is an exemplary introductory screen, incorporating video footage, upon selection of a Gym icon;

FIG. 37 is an exemplary screen showing an individual's exercise program;

FIG. 38 is an exemplary screen of an animated demonstration of a selected exercise;

FIG. 39 is an exemplary screen showing exercise-related articles and informational materials;

FIG. 40 is an exemplary screen of a Stress Management Park depicting session topics of an individual's stress management program;

FIG. 41 is a sample self-assessment quiz given to an individual during a stress management session;

FIG. 42 is an exemplary screen showing topics for progressive relaxation techniques;

FIG. 43 is an exemplary screen of video and audio choices for relaxation;

FIG. 44 is an exemplary search engine for searching the system's archived articles and World Wide Web resources and references;

FIG. 45 is a graphical representation of various interface tools, organized around a village motif, available to a clinical group user;

FIG. 46 is a graphical representation of the system's Inner Core option;

FIG. 47 is a graphical representation of the system's Schedule Book option;

FIG. 48 is an expanded graphical representation of the Schedule Book;

FIG. 49 is a graphical representation of the system's Journal option;

FIG. 50 is an expanded graphical representation of the Journal;

FIG. 51 is a graphical representation of the system's Post-office option;

FIG. 52 is a graphical representation of the system's Note option;

FIG. 53 is a graphical representation of the system's Postcard option;

FIG. 54 is a graphical representation of the system's Telegram option;

FIG. 55 is a graphical representation of the system's Audio E-mail option;  
FIG. 56 is a graphical representation of the system's Kitchen option;  
FIG. 57 is an expanded graphical representation of the Kitchen option;  
5 FIG. 58 is a graphical representation of the system's Recipes option;  
FIG. 59 is an expanded graphical representation of a Shopping List option;  
FIG. 60 is an expanded graphical representation of an educational topic available through  
pull-down menu in FIG. 57;  
FIG. 61 is a graphical representation of the system's Gym option;  
10 FIG. 62 is a graphical representation of a Stretching option of FIG. 61;  
FIG. 63 is a graphical representation of a Strength Training option of FIG. 62;  
FIG. 64 is a graphical representation of the system's Tranquility Park option;  
FIG. 65 is a graphical representation of the system's Relaxation option;  
FIG. 66 is a graphical representation of the system's Yoga option;  
15 FIG. 67 is a graphical representation of the system's Library option;  
FIG. 68 is a graphical representation of the system's Articles option;  
FIG. 69 is a graphical representation of a World Wide Web access option;  
FIG. 70 is a graphical representation of an educational topic available through a pull down  
menu in FIG. 67;  
20 FIG. 71 is a graphical representation of the system's Travel Agency option;  
FIG. 72 is an alternative user interface screen provided by the system;  
FIG. 73 is a graphical representation of a log-on screen for a physician or case advisor in  
accordance with another aspect of the present invention;  
FIG. 74 is a graphical representation of a main menu available to a physician or case  
25 advisor;  
FIG. 75 is a graphical representation of an exemplary user file;  
FIG. 76 is a graphical representation of a blood pressure chart for an exemplary user;  
FIG. 77 is a graphical representation of a physical activity chart for an exemplary user;  
FIG. 78 is a graphical representation of a weight chart for an exemplary user;  
30 FIG. 79 is a graphical representation of a cholesterol chart for an exemplary user;  
FIG. 80 is a graphical representation of the system's Behavior option;  
FIG. 81 is a graphical representation of the system's Recommend option;  
FIG. 82 is an expanded graphical representation of the system's Communicate option;  
FIG. 83 is a graphical representation of the system's Video Conferencing option;  
35 FIG. 84 is an exemplary screen for specifying system access for an administrator or health  
advisor;  
FIG. 85 is an exemplary screen for modifying nutrition program levels;

FIG. 86 is an exemplary screen for modifying or adding exercises or exercise program levels;

FIG. 87 is a graphical representation of a main menu available to a health plan payor or employer;

FIG. 88 is a graphical representation of a View Compliance Status option;

FIG. 89 is a graphical representation of a View Comparative Costs option;

FIG. 90 is a graphical representation through which the system indicates whether the user has executed a limited waiver of confidentiality;

FIG. 91 is another graphical representation of an exemplary user record;

FIG. 92 is a graphical representation of the system's Review Costs option;

FIG. 93 is a graphical representation of the system's Review Outcomes option;

FIG. 94 is a graphical representation of the system's Perform Utilization Review option;

FIG. 95 is a graphical representation upon selection of an exemplary physician group of FIG. 93; FIG. 96 is an expanded graphical representation of a Communicate option of FIG. 87;

FIG. 97 is a block diagram of the behavior modification program's compliance monitoring and feedback system;

FIG. 98 is a flow diagram illustrating certain aspects of the behavior modification program's compliance monitoring and feedback system; and

FIG. 99 is a flow diagram illustrating aspects of a software module for personalizing an individual's behavior modification program.

To facilitate description of the present invention, reference is made in numerous instances to the flow diagrams of FIG. 98, and in FIG. 99. For convenience, the blocks in the flow diagrams are numbered beginning at 1000.

## DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. 1, in a presently preferred embodiment of the invention, the user 10, physician 12, case advisor 14, and health plan payor 16 (such as an HMO, insurance company or self-insured employer), all provide input to and/or receive output from the behavior modification, compliance monitoring, and feedback system. The system offers a personalized behavior modification program customized to fit the health care and recovery needs of individual users. The case advisor may be a nurse, psychologist, psychological therapist, nutritionist, physical trainer, physical therapist, or any other person trained in the health sciences area. Users electronically interact with the system and their case advisors through a system interface 18.

The behavior modification, compliance monitoring, and feedback system provides at least three separate benefits. First, it is based upon and facilitates prioritization of core needs of an individual, such as health, security, and community, and facilitates the integration of these basic

needs with overall lifestyle at home and work, through a personal portal. The personal portal infuses the Web portal site concept with a new depth of personalization. It encourages use of the system for behavior modification necessary to satisfy the core needs, by conveniently providing, in a centralized location, access to behavior modification tools and educational materials, as well as customizable access to Internet sites and other sources of information which suit the individual interests of the user. The user is, therefore, likely to be naturally drawn to the system as part of his or her everyday activities. The textual and graphical prompts further motivate usage of the tools and educational materials.

Second, the system helps the individual comply with the program through an electronically-implemented support mechanism. The system provides an exemplary support mechanism in the form of electronic group meetings, bulletin boards, and other programs that enable the individual to interact with other users participating in similar behavior modification programs.

Third, the system assists case advisors in monitoring compliance with the behavior modification program. Through this monitoring, a case advisor may not only encourage an individual to comply with his/her program, but may also change the program according to the individual's progress.

A wide range of individuals can benefit from the system. By way of example only, these individuals include those with chronic ailments such as coronary artery disease, diabetes, chronic pain, depression, addiction, arthritis, cancer and asthma, as well as users who are recovering from medical procedures such as angioplasty or by-pass surgery (the "clinical group").

The system may also assist individuals who simply want to maintain their health and prevent or reduce the risk of ailments (the "wellness group"). For individuals in the wellness group, the program may focus, for example, on stress management, diet, and exercise. The wellness group may further include family members of the clinical group who may need group support and/or counseling to deal with the family member's chronic illness. The members in the wellness group may not need all the features available to members in the clinical group. Furthermore, access to certain areas within the system may be customized and/or limited to meet the individual user's needs.

The system is not limited to health and wellness. The powerful techniques the system employs can be tailored to virtually any area of lifestyle change, including, for example, job performance enhancement, management or training that can benefit from a controlled behavior modification. For instance, the system can be a highly cost-effective Human Resources solution for large employers to facilitate employee preventive health care and disease management, increasing workforce productivity while decreasing medical costs. The system can also be a

1 medium for employer messaging and workforce communications with powerful applications in wide-ranging areas such as sales force management.

5 Managed care organizations are another market in which the system may be utilized. The system can greatly facilitate the marketing efforts of these organizations to employers, as well as offer easy implementation of a wide variety of preventive care and disease management programs among an HMO's subscriber base. Other applications of the system include, without limitation, modification of the behavior of sales and marketing personnel to enhance productivity, corporate employees and workers to enhance efficiency, workplace training, 10 elementary school training of children, or any other application where behavior modification is beneficial. The system, therefore, may be configured into a myriad of individualized applications, depending on an individual's personal needs and priorities. For instance, if the system is used for modification of the behavior of sales and marketing personnel for personal effectiveness training with the goal of increasing sales, the system might request information from the employee as to the number of existing sales contacts, and details of situations in which sales were not effective. 15 The system might then correlate the information and recommend a goal-oriented program that will allow the employee to enhance his or her sales tactics, or increase the number of sales contacts. The tools and educational materials provided by the system helps the employee modify his or her behavior to allow the user to reach the desired goal. For instance, the employee might be provided with tips on how to handle difficult customers, gain self-assurance, etc.. On- 20 line group meetings might also be scheduled to provide moral support and counseling on how to be a more effective salesperson. The system is preferably integrated with a program for health and wellness for helping the individual satisfy the core need of health and wellness, which will provide the foundation for the individual to prosper in their career and other aspects of their life. The combination of education and tools that assist the individual in applying that education and 25 integrating it into daily life, along with other elements such as feedback and other forms of support, result in a behavior change.

The system may also be integrated with additional commercially available software which complements and/or adds features to the system to further aid fulfillment of an individual's core needs. Thus, by way of example, an enterprise customer might integrate its sales and marketing 30 automation software into the system. The system's personal portal would thereby become a vehicle for the speed management of a company's sales force, disseminating vital information whose rapid deployment is essential to shortening its sales cycle. Sales representatives would use the system as a means of communicating with both the home office and each other. The system would also provide a forum for motivational problem-solving, and assist sales reps in 35 maintaining a healthy lifestyle on the road, while also keeping up-to-date with tactical and strategic developments.

As another example from the health-care arena, Pharmaceutical Benefits Management (PBM) firms could integrate their Internet-enabled member transaction and prescription care software into the system. The system's unique programming services and user-friendly interface would greatly increase the effectiveness, usability, and member satisfaction of their digital initiatives.

The behavior modification system including the personal portal preferably includes software tools, including artificial intelligence (AI), expert systems, smart agents, and search engines.. An artificial intelligence (AI) system allows representation of a task, has problem-solving methods for manipulating the task, an operating framework for facilitating the processing of the task, and knowledge necessary for solving the task.

An expert system is a particular type of an AI system that focuses on the knowledge factor. Expertise consists of knowledge about a particular domain, understanding of domain problems, and skill at solving some of those problems. The knowledge may be either public or private. Public knowledge includes the published definitions, facts, and theories which are contained in the textbooks and references in the domain of study. Private knowledge includes rules of thumb and heuristics for allowing educated guesses to a given problem.

The personalization feature allows the system to work internally by maintaining user profiles, tracking usage of the system, providing feedback to the users as to their individual progresses. The smart agent feature obtains information on the Internet via conventional search engines, in response to a user request.

In a presently preferred embodiment, a user desiring to enroll on the system to make a desirable or necessary behavior modification contacts a case advisor via e-mail, telephone, or other known communication methods. The case advisor then gathers information on the user to create the user's personalized behavior modification program. In doing so, the case advisor electronically provides the user with one or more forms to complete. Such forms might include personal profile forms, medical forms, and/or surveys to determine the user's motivation in making a behavior modification. Alternatively, the user provides the profile information to his or her employer, HMO, or another person or entity who then enters the information directly into the system, or provides the information to the case advisor who enters it into the system.

The case advisor sets up the new user based on information contained in the completed forms. This process includes input of the individual's personal contact information, including his or her user ID and password, by selecting a Personal option 2000 as shown in FIG. 2. Selection of a Medical option 2002 allows addition of the individual's medical information. FIG. 3 is an exemplary screen illustrating the types of medical information that can be filled-in for an individual. This might include, for instance, information as to the individual's height, weight,



heart rate, blood type, cholesterol level, and the like. The desired goals, such as a goal weight 2004, may also be input if relevant.

The system allows entry of information as to the individual's medications by selecting a Medication option 2006. FIG. 4 illustrates a screen image with an exemplary individual's medication information filled out. This information may be updated by selecting an Update Medication button 2008. Furthermore, through the Reminder Service option 2010, the system reminds the user via his or her pager when it is time to take the medication. Reminders may also be sent via e-mail or phone if desired.

To place the individual in an appropriate behavior modification program, it is desirable to get information as to the individual's interests in making a lifestyle change. The case advisor thus interviews the individual to survey the goals that the individual wants to achieve. During the interview, the advisor may propose that some of the goals indicated by the individual are too ambitious, or not ambitious enough.

After the interview, the case advisor inputs the goal information into the system by selecting a Goal option 2012. FIG. 5 displays an exemplary set of behavior modification goals 2014. The case advisor rates a user as being very interested, moderately interested, somewhat interested, not very interested, or not at all interested (referred generally at 2016), in meeting specified goals. As the user participates in the program, the case advisor reflects changes in the user's interests in meeting the goals, by entering such changes via an Update button 2018.

Once the case advisor enters information on the user's personal profile, medical history, behavior modification interests, and the like, into the system, either the system or case advisor recommends a behavior modification program with a default set of goals based on the user's needs and existing medical protocols (block 1010, FIG. 98). The default set of goals may be modified by the case advisor, or even by a physician or another health advisor if necessary (block 1012, FIG. 98).

To monitor an individual's progress in meeting the specified goals, the system may further require the individual to keep track of his or her vital statistics in an electronic journal. For instance, if the user is on a weight loss program, the vital statistics to be tracked might include his or her weight, waist size, hip size, and the like. FIG. 6 illustrates exemplary vital statistics information 2019 that the system may ask the user to track. The frequency of the tracking 2020 might vary based on the particular vital statistics. For instance, the user's weight may be tracked once a week while his or her waist size may be tracked every month. A Submit button 2021 allows the entry of completed vital statistics information to the system as often as the case advisor desires. The submitted information is then available to the system for correlating with the milestones in the behavior modification program and determining whether the user is

1 complying with the program. In addition, the case advisor or another health advisor may modify the program as necessary upon review of the submitted data.

5 Referring now to FIGS. 7 and 8, the case advisor may also select an exercise program, a nutrition program, a stress management program, and a support group meeting program to help users achieve their behavior modification goals. FIG. 7 is an illustration of a screen allowing formulation of an exercise program for an individual. An Exercise 2022 option permits the case advisor to determine the types of exercises the user should perform and the repetitions for each exercise, to achieve the program goals. The types of exercises recommended as well as the number of repetitions for each exercise depends on the information provided by the user for being enrolled in the system. Thus, different exercise programs might be recommended for users with different weights, different physical conditions, and different health histories. For instance an exercise program recommended for a user with back problems might differ from an exercise program of a user who does not have such an ailment.

10 The case advisor may also select a nutrition program using the system's Nutrition 2024 option. FIG. 8 illustrates an exemplary nutrition program detailing the amount of calories, fat, cholesterol, sodium, fiber, etc. that the user should consume to achieve his or her goals 2026. The system preferably selects the nutritional program that is personalized for a particular user upon correlation of information pertaining to the user such as age, sex, weight, health information, medication information, and the like. For instance, if the user is recovering from a recent heart attack, the nutritional program selected might allow for only a low amount of cholesterol in the user's diet. A Modify 2028 button allows the case advisor to change the nutrition program based on the individual's progress with his or her program.

15 As the user participates in the behavior modification program, the system may make the individual's overall progress data electronically available to the case advisor to help the manager monitor the individual's progress in the program. Based on the progress data, the case advisor might decide to modify the behavior modification program, send encouragement letters to the individual, or contact the individual to determine the reason for a lack of compliance. According to a preferred embodiment, the case advisor selects the Overall Progress 2030 option illustrated in FIG. 9 to view an individual's overall progress. The system depicts the individual's daily progress data in a graphical form 2032 along with a chart 2034 specifying all the program areas 2033 in which the user might be participating. For a given date, the chart specifies whether the user has complied with a specified program area, has not complied with the program area, or that the program area is not applicable to the user. As discussed in further detail below, the system also makes the overall progress information available to the user through an electronic journal.

1 The system can also graphically display individual elements of a user's progress. For instance, selection of a Medication Log 2036 option causes the display of the user's daily compliance with medication intakes along with a chart specifying the exact medications that the individual has or has not taken. This information is also available to the user through his or her electronic journal.

5 FIGS. 10-13 illustrate an alternative user interface for case advisors to enroll an individual into the system. Referring to FIG. 10, the case advisor sets up a new patient based on information contained in the patient prescription form or accesses the records of existing patients through patient files 40. In this example, the patient files 40 are identified by the patient's name and social security number. To create or modify the program for a particular patient, the manager creates a new folder or selects a preexisting folder 42 corresponding to the patient in question.

10 FIG. 11 illustrates an exemplary patient record after the case advisor selects the desired user file 42 in FIG. 10. The record includes, among other things, the user's current status and program goals. The first column 44 of the record sets forth fields for pertinent user information including the user's vital statistics (e.g., weight, cholesterol level, blood pressure), other baseline characteristics (e.g., patient's smoking habit, physical activity, alcohol and eating habits, depression and stress levels, seat belt use), and information relating to the user's medications, if any. The second column 46 of the record sets forth the baseline values corresponding to the vital signs and user characteristics at the beginning of his or her participation in the program. As shown in the third column 48, the system has the ability to accept updated information taken from the user on-line and from subsequent office visits. Based on the patient's initial evaluation and/or short-term progress, the case advisor can design a new program or modify an existing program for the user by selecting the system's Design option 50.

15 Referring to FIG. 12, upon selection of the Design option 50 in FIG. 11, the system prompts the case advisor to assign intensity levels 51 corresponding to the user's diet, exercise, stress management, need for group support, anticipated compliance, and pharmaceutical requirements. The intensity levels in this example range from a lowest level of 1 to a highest level of 5. The system may also include other measures of program intensity.

20 Based on the input information, the case advisor or the system itself generates a set of goals 52 or milestones for the patient. The system does this by correlating the patient's age, sex, weight and information relating to the health, life situation and diagnostic category of the patient to established medical protocols for that type of patient. The system may also take into account other pertinent information including the patient's medication and other health conditions. Based on the correlation, the system suggests a program including goals relating to intake of calories from fat, exercise level, stress management counseling, and group support and compliance

management frequency. The case advisor may view details regarding the implementation of the goals by selecting the system's Program Detail option 54.

Referring to FIG. 13, upon selection of the Program Detail option 54, the system presents the user record 60 along with the recommended one month goals 61 and final goals 62. The case advisor may confirm 63 or edit 64 the suggested program to modify the goals by making appropriate selections (block 1012, FIG. 98).

The content of the user records and the generated goals vary depending on the user's diagnostic category. For example, some of the information shown on the user record may not be necessary for an individual belonging to the wellness group. Information regarding calories, cholesterol level, blood pressure, and seat belt use, for instance, may not pertain to a person who is on the system to get support to help deal with a family member who suffers from a chronic ailment.

In an alternative embodiment, a user may enroll into the system directly without aid of a case advisor. According to this embodiment, the user preferably accesses the system via the Internet. The user then completes necessary forms on-line to provide the system with information as to the user's profile, medical history, desired goals, and the like. If the system is configured as an AI or an expert system, the program recommendations, modifications, trackings, etc. are all automated. In this case, the system correlates the input information, such as the patient's age, sex, weight, medical information, and goals, to established medical protocols for that type of individual. The system then suggests a default behavior modification program for the user and modifies the program based on user progress. On the other hand, if a case advisor works in conjunction with the AI or expert system, the initial recommendation of a behavior modification program is made by the system, but any updates or modifications to the program are done by the case advisor, as described above in further detail.

In yet another embodiment, a physician or other health professional diagnoses an individual with an ailment. The physician may then recommend a health care maintenance or recovery program which requires the patient to, for example, take certain medications, participate in a support group or control risk factors by altering diet, following an exercise program, and/or managing stress levels.

The physician then places the user on the system to help him or her make these desirable or necessary lifestyle and behavior modifications. In order to subscribe the user to the system, the physician or another health professional first enters the user's baseline vital factors into the system by any suitable means. Such factors may include blood pressure readings, heart rate, height, weight, cholesterol levels, and the like. Depending on whether the doctor is on-line (block 1000, FIG. 98), the doctor may input these vital factors into the system directly via his or her personal computer (block 1002, FIG. 98). Alternatively, the physician may fill out a

1 prescription form and send the information to the case advisor, who then sets the user up on the system (blocks 1004, 1006 and 1008, FIG. 98).

5 Referring to FIG. 14, an exemplary prescription form 22 contains basic profile information 23 such as the user name and user ID. In using the form, the physician might select a diagnostic category 24 and prescribe a recovery program level 26. In the exemplary embodiment, eight separate diagnostic categories are used to describe the state of the user's health. Category I, for example, includes users who have suffered from a heart attack within the current year, while Category VIII includes users who suffer from no particular ailment but are  
10 on the plan simply to promote wellness. The system may include other categories as necessary.

Depending on the diagnosis, the physician may recommend that the user cease smoking or that he or she lose a targeted amount of weight within a certain period of time, by circling the appropriate response in field 30. The physician may also enter other information, such as the user's medications 32 into the form. The physician then circles or fills-in desired 3-month targets  
15 34 relating to, among other things, daily calorie intake, percent daily intake of saturated fat, maximum heart rate, and cholesterol level.

Referring to FIG. 15, the system also sends an exemplary patient status report 70 to physicians who do not have direct access to the system. The status report may include information regarding a patient's current status 66, suggested next steps 67, and target goals 68.  
20 The system may include other information in the status report as desired by the physician. The physician has the option to agree with the suggested next steps 69 or indicate changes to the program. The physician then sends the report 70 back to the case advisor for modification of the program as necessary. Communication may take place via e-mail, facsimile, or any other method of transferring data.

25 Once an individual is set up on the system, it assists the individual in complying with his or her behavior modification program (block 1020, FIG. 98). In a currently preferred embodiment, a personal portal is used for personalization as well as a smart agent, allowing the user to access behavior modification tools, educational materials, and other resources on the Internet. The personal portal serves as a digital on-ramp to the World Wide Web, which is  
30 personalized to meet the individual's health and lifestyle needs. The personal portal provides users with the tools to make desired or necessary behavior modifications, and integrates such modifications into the user's everyday life.

FIGS. 16A-16G are flow diagrams illustrating the operation of various tools and educational materials provided by the personal portal. The main routine illustrated in FIG. 16A  
35 begins with the user logging onto the system 4000 via a telephone line, cable modem, cellular connection, satellite link, or other known communication methods allowing connection with a network server. The user logs onto the system through input of a valid user ID and password.

After the user has logged onto the system, the main routine displays a home page on a display monitor in step 4002. FIG. 17 illustrates a home page according to a preferred embodiment. As shown here, the personal portal allows the home page to be organized as a cover page of a newspaper providing access to Internet sites, intranet sites or other sources of information which suit the individual interests of the user. The system then updates the information provided on a daily basis as is done with a conventional newspaper. A person skilled in the art should realize, however, that the updates might occur several times a day, or on a weekly or monthly basis.

The personal portal also provides the home page with links 3022 to other sites of interest via icons, buttons, menu items or other types of select mechanisms. The category of sites identified by the Internet links 3022 are customizable based on the user's interests. In the illustrated example, the Internet links 3022 pertain to shopping, stocks, education, sports, travel, and horoscope.

Besides being customizable based on user interests, the personal portal, according to an alternate embodiment of the present invention, provides personalized information and feedback to the user based on the information available on the user. A link to a computer database storing user-specific data such as the user's name, address, birthday, medical information, program elements, program goals, and the like, allows the system to know intimate details about the user to provide the necessary tools and resources for aiding compliance with the individual's behavior modification program. A difference between customization and personalization may be better understood by considering the following example. A user customizes the home page by creating a news page with the types of news that he or she is interested in, such as Health News 3002, World News 3004, and Business News 3006. The personal portal may then perform personalization as well as smart agent functions, in regards to the articles provided in the Health News 3002 category. In a preferred embodiment, the system analyzes the particular behavior modification program prescribed to the user, and displays articles, advertisements, e-commerce opportunities, and links to Web sites pertinent to the user's personalized program. For instance, if the user is in a smoking cessation program, the personal portal provides articles in the Health News 3002 section pertaining to the topic.

In yet another aspect of personalization, the system monitors the user's progress in his or her behavior modification program, and regularly reconfigures the articles, tools and resources provided to the user based on such progress. These resources might be stored in the system's local database. In addition, the system might invoke a search engine to find the relevant resources on the Internet outside the local database. If the system determines that the user is not meeting the established goals, the personal portal provides articles, advertisements, e-commerce and Web site links on the home page that provide additional aids to the user to meet those goals.

1 For instance, if the system determines that the user in a smoking cessation program is smoking  
three cigarettes a day when, the user should be smoking only one, the personal portal provides  
advertisements of products which may aid the user to stop smoking, as well as Web site links  
5 with information relevant to smoking cessation. The articles and Web site links may be geared,  
for instance, to tips on how to overcome the urges to smoke. The advertisements may be geared  
towards nicotine patches or an innovative medication to help kick the smoking habit. The  
opportunity to purchase such items via e-commerce might also be offered. Such feedback from  
the personal portal helps reinforce positive behavior and discourage negative behavior. In  
10 addition, the system might schedule the individual on additional group meetings and mentoring  
sessions to receive more support and guidance to help the individual comply with the program.  
Other relaxation and meditation tools might also be provided help the user fight the urges of  
smoking.

As another example of how the portal can be personalized, the Horoscope 3024 and  
15 Weather 3020 options respectively provide horoscope information based on the user's birth date  
and weather information based on the user's address. A What's New? section 3008 alerts the  
user of any additions to the system contents, such as addition of new recipes, new articles, and  
the like, based on the user's particular behavior modification program. For instance, a user  
recovering from a recent heart attack might be informed through the What's New? section of a  
20 new Web site containing information relevant to new discoveries in this area. This information,  
however, might not be displayed to an individual who is using the system solely to try to stop  
smoking because it would be irrelevant to such individual.

A Comedy Corner 3018 provides comedy video clips or radio show clips for adding  
humor to the system and further enticing the individual to use the system on a regular basis.

25 The personal portal is further integrated with a behavior modification program and  
provides access to tools and educational materials germane to the program through a main  
control bar 3026 on the home page. The integration of the personal portal with an individual's  
behavior modification program helps promote usage of the system on a regular basis. For  
instance, a user who enjoys to read the day's news, check the weather, and further read the  
horoscope on a daily basis, might now do so through the personal portal rather than through a  
30 conventional newspaper. As the user accesses the personal portal to perform his or her daily  
routine, the user can further access behavior modification tools and educational materials  
integrated into the personal portal, making usage of those tools and educational materials also  
part of the user's everyday routine. The entertainment aspects of the personal portal, such as the  
Comedy Corner 3018 and Horoscope 3024 sections, as well as the textual and graphical prompts,  
35 provided through the home page, further draw the user to the personal portal and promote its

1 usage on a regular basis. Such regularity and consistency is an essential factor in the modification of previously existing behaviors and the adoption of new ones.

5 The present system may further be integrated with other commercially available software programs, allowing the system to further prioritize and meet the core needs of individuals. For instance, sales and marketing automation tools might be incorporated into the system of a user in the marketing and sales area. The integrated system will not only provide the user with behavior modification tools and resources affecting his health and/or effectiveness as a salesperson, but the sales automation tools integrated into the system might allow the user to  
10 utilize the system to record and disseminate customer needs to other company personnel.

15 The system preferably includes a personalization module integrated with the behavior modification program. In a presently preferred embodiment of the present invention, the system accesses 1200 (FIG. 99) user information from various sources within the program. These sources include, for example, the user profile, program goals, the user preferences, the user meeting rooms, the user's self-reporting tools, such as the journal, or any other sources of user information. From this information, the system next correlates 1210 (FIG. 99) the gathered information to a database and/or conducts a search for articles, recipes, group support programs, advertisements, e-commerce sites and opportunities, and any other information that is relevant to the user. The search may be conducted within public or proprietary databases via an Intranet,  
20 the Internet, or local storage. Additionally, any one of a number of conventional search engines or other public, proprietary, or third party sources may retrieve information. The system then delivers 1220 (FIG. 99) the information to the user by one or more methods to assist and motivate the user to achieve his or her goals. For example, the system may present the articles on the Lifestyle's home page, recommend recipes, present the gathered articles, suggest changes to the program, or promote certain products or group support programs based on the gathered  
25 information. With such a personalization module, the system provides a powerful tool for behavior modification.

30 In a currently preferred embodiment, the main control bar 3026 is organized around a village motif providing graphical representations of the user's home ("My Place") 3028, Community 3030, Kitchen 3032, Gymnasium 3034, Park 3036, and Library 3038. The personal portal continuously monitors for user selection of an item on the main control bar 3026. If the personal portal detects such a selection, it proceeds to perform functions related to the selected item, including the display of a subcontrol bar 3050 with options pertaining to the selected icon. Similarly, the personal portal continuously monitors for user selection of an item on the  
35 subcontrol bar 3050, and performs functions related to the selected item upon such selection. In a preferred embodiment, the user accesses the home page by selecting the My Place icon 3026 in the main control along with a Home Page option 3040 on the subcontrol bar 3050. Referring



1 now to the main routine of FIG. 16A, if the user is to access the Internet, as inquired in step 4004, by selecting, for instance, an on-line news article on the news page 3002, 3004, 3006, or a customized link 3022 to an Internet site of interest, the system performs traditional Internet-related functions 4006, such as accessing the on-line articles and displaying them to the user.

5 If, however, the user has selected the My Place 3028 icon from the main control bar 3026 as inquired in step 4008, the subcontrol bar 3050 displays a Home Page option 3040, Journal option 3042, My Meeting option 3044, Favorites option 3046, and My Profile option 3048. The process also invokes the exemplary subroutine illustrated in FIG. 16B. If the subroutine determines in step 4010 that the user has selected the Home Page option 3040, the subroutine returns to the process of FIG. 16A for displaying the home page.

10 If, however, the subroutine determines in step 4012 that the user has selected the Journal option 3042 (FIG. 17), the subroutine proceeds to perform electronic journal functions in step 4014. FIGS. 18-21 are illustrations of an exemplary electronic journal for performing such electronic journal functions. In a preferred embodiment, the journal includes an Overview page 2114, a Program Log page 2116, and a Scheduler page 2118. FIG. 18 depicts an Overview page 2114 listing specific areas of an individual's behavior modification program. For instance, the Overview page illustrated displays the medicines prescribed to the user 2120 as well as the frequency of their intake, an overview of the user's nutritional program 2122, and the types of exercises the user must perform 2124. In addition, the Overview page 2114 includes a display of the user's personal schedule 2126 and a to-do list 2128 for the day as entered through the Scheduler page 2118 described in further detail below.

15 FIG. 19 illustrates an exemplary Program Log page 2116 provided by the electronic journal. The user may create a shortcut 3010 (FIG. 17) to this page from the home page for faster access to his or her program log. The Program Log page 2116 is a daily reminder of the medications the user must take as well as exercises and tasks 2130 that the user must do to comply with his or her behavior modification program. According to one embodiment, the system searches a Program Database for the user's particular behavior modification program. If the user takes medication, the Program Log page 2116 inquires whether the user has taken the medication for the current day. Similarly, if the user needs to comply, on a given day, with an exercise program, nutrition program, or stress management program, or if the user must measure his or her blood pressure on that day, the system inquires whether those tasks have been completed. As the individual performs the tasks assigned, he or she fills out a checklist 2138 and electronically submits it to the health advisor through a Submit option 2132. In this way, the health advisor can monitor the individual's compliance with the behavior modification program on a daily basis without the individual having to make frequent doctor visits.

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The Program Log page 2116 also allows users to view their overall progress 2134 in their respective behavior modification programs. In the example portrayed in FIG. 19, the system depicts the user's overall progress in the form of a graph which displays the user's daily, weekly, or monthly progress. Each graph bar 2136 preferably illustrates the percentage of tasks, mandated by the user's behavior modification program, that the user has completed for a selected time period. The system alerts the user of lack of compliance with his or her program for a given time period through a change in the color of the corresponding graph bar. For instance, if the user has completed only 50% of his tasks on February 2, the system may set the bar color corresponding to that date to yellow. If, however, the user has complied with only 25% of his tasks, the system may change the color bar to red to visually alert the user that he or she had fallen below an acceptable compliance level on that date. In addition, the system might provide additional tools, educational materials, advertisements, e-commerce opportunities, and Web site links through the personal portal 3000 (FIG. 17), to help the user comply with his or her program if a lack of compliance is detected.

The Program Log page 2116 also enables the user to view his progress on an item-by-item basis. FIG. 20 illustrates the type of items the system offers to the user for individual viewing. For instance, the user might view his or her weight progress by selecting a weight item 2138 on a pull-down menu from the overall progress 2134 box. The overall progress viewing, as well as the item-by-item viewing options, provides feedback to the user as to his or her level of compliance with the behavior modification program. Such constant feedback helps motivate the user to participate in the program on a regular basis. It makes it far less likely that the user will be able to become non-compliant through inattention or laziness.

The Program Log page 2116 further allows the user to view the reward points 2140 that he or she has accumulated to date. A user may earn points by good participation in the program and/or by reaching certain milestones. For instance, the system may award points for good attendance at electronic meetings, consistent completion of the program log, and/or meeting certain predetermined goals. The rewards may range from symbolic, such as getting "gold stars" that commend a user for his or her progress, to reward points and frequent flier miles which the user may exchange for goods. The rewards points feature of the system, therefore, further motivates the user to regularly participate in the behavior modification program.

The electronic journal also provides a Scheduler page 2118 as illustrated in FIG. 21. The Scheduler page 2118 allows the user to set up daily appointments and a to-do list. A menu 2120 displayed upon selection of a push-down button 2122 on the Scheduler page 2118 permits the user to view his daily schedule, view his to-do list, or print out either or both of those items. The daily appointments and to-do items input through the Scheduler page 2118 appears on the user's Overview page 2114 for the corresponding day as illustrated in FIG. 20.

Referring back to FIG. 16B, if the subroutine determines in step 4016 that the user has selected the My Meeting option 3044 (FIG. 17), electronic meeting functions are performed in step 4018. Accordingly, a Join Meeting icon 2026 illustrated in FIG. 22 allows the user to participate in a scheduled electronic meeting which the user has signed-up for. The system facilitates this process through the use of electronic and on-line technologies. On-line group counseling solves many of the logistical difficulties encountered in bringing together, on a regular basis, a large group of people with different schedules who live in different places. Instead of requiring users to physically travel to a meeting location, the system enables them to attend group meetings by simply logging on to their computers. As the burden on the individual user decreases, group attendance increases, and this enhances the overall practical, value of group counseling and support.

On-line counseling also brings an individual into contact with a wider pool of people with similar problems than is afforded through traditional counseling. When desirable or necessary, group membership can be drawn from people in a wide variety of regions instead of being limited to a single vicinity. Furthermore, the relative anonymity of electronic communication benefits users who are reserved or possibly embarrassed by their situations. These users may be more willing to share their feelings in an on-line environment than they would be face-to-face.

FIG. 23 illustrates an electronic meeting room 96A interface for participating in group meetings through which a user receives on-going, on-line group support. Users have access to the meeting room 96A interface via the join meeting icon 2026 of FIG. 22. Upon selection of the icon 2026, users are presented with meeting rules and regulations. They may then proceed to a pre-scheduled meeting. Only those scheduled for a meeting will be permitted to attend. The scheduling of meetings is part of the Community 3030 (FIG. 17) interface discussed in greater detail below.

Referring to FIG. 23, each participant 112 may chose to represent him or herself in one of two different ways in the electronic meeting room. The system can scan a participant's 112 photograph to represent him or her in the system. Alternatively, if the user desires anonymity, he or she may choose to be represented by a non-photographic icon, or "avatar," accompanied by either his or her actual name or a pseudonymous screen name. The avatar then represents the user in group meetings and private mentoring sessions. In some cases, users may choose to design and construct their own avatars.

1 A trained, experienced leader or chairperson 114 conducts the group counseling sessions. The chairperson preferably guides the discussion and encourages participation from all members. To enhance the beneficial aspects of group counseling, the system allows the chairperson 114 to  
5 access selectively certain parts of the user's electronic journals and electronically display the selected portion in an anonymous manner to the on-line group. The chairperson 114 can also cut somebody off electronically if he or she is saying things that are inappropriate during a meeting.

In a preferred embodiment, a participant 112 "speaks" at a meeting by entering text at 122. Upon hitting the enter key, this text appears as "bubble-talk" 116 above the representation  
10 of the participant 112 who entered the corresponding text. A participant may express emotions on the screen by selecting and inserting one of the graphically represented facial expressions at space 122 provided for text input. In an alternative embodiment, instead of using a "bubble-talk" format, each participant 112 may participate at the meetings by talking into a microphone connected to his or her PC, and listening to other participants via speakers also connected to the  
15 PC. Indeed, group meetings can be conducted in any number of configurations: text only, voice to text, or streaming audio/telephony.

A log window 110 keeps a running or scrolling record of the conversations during an electronic meeting. Thus, if a participant 112 loses track of the conversation, or wants to comment on something said earlier, he or she has access to the entire conversation for reference.

20 During group counseling meetings, a chairperson 114 may play on-line multimedia presentations featuring other users or well-known figures who have made positive lifestyle changes. In the presently preferred embodiment, each participant has access to the multimedia presentation, such as a video clip, via CD-ROM received by mail on a regularly updated basis. Alternatively, if the user has access to the appropriate software and hardware, and has a  
25 connection of sufficient bandwidth to the server, the system may stream the multimedia presentation to him or her over the network. In addition to CD-ROM, the system can also use DVD disk, downloads to the user's computer hard drive, or any other method or medium capable of storing or transmitting audio and video data. Each video clip also has associated with it a text profile summary 2028 of the speaker featured in the video.

When it is time to view the  
30 multimedia presentation, the chairperson selects a show video icon 2024 (FIG. 22) which sends a signal via the network to each participant's PC. The signal preferably matches a code on each participant's CD-ROM or DVD, which triggers the playing of the selected video by the PC. If the video is stored on DVD disk or on the user's computer hard drive, or some other storage medium, the video the system could trigger the presentation to play from that medium as  
35 appropriate. The case administrator or advisor selects the chairperson for a meeting and gives him or her access to the video clip to be shown at that meeting. In a presently preferred embodiment, only the chairperson has access to the show video icon 2024.

1 The multimedia presentations shown at the meetings may feature well-known or public figures and other users who may have dealt with the same issues that the participants are facing. For example, in a meeting for users who have suffered heart attacks, a video clip  
5 of a celebrity who recovered from a similar problem may be shown. In the clip, the celebrity might talk about his or her own heart attack, the bypass surgery that he or she underwent, and the depression that followed. The celebrity might also describe other struggles that he or she faced, and how these struggles were overcome during the recovery process. Likewise, video clips of program participants may also be used to provide motivational examples of success stories, or  
10 to express deep-felt emotions (e.g., anger, depression, etc.) that must be dealt with by that individual and other members of the group to be successful in his or her recovery. Such presentations may act as a source of motivation to the participants, giving them a sense of hope. If someone else was able to overcome the same obstacles, they can too. The presentations may stimulate further discussion during the meeting, and allow participants to open up about the issues and struggles that they are facing during their recovery process.

15 The multi-media presentations are not accessible for viewing prior to the occurrence of an electronic meeting in which the presentations are made for the first time. Thus, prior to a meeting, users may just view a list and/or summary of videos in his or her CD-ROM, DVD disk, hard drive, or other storage media. However, once a video is released by a chairperson and played for the first time at a meeting, the participants may access it any time thereafter.

20 The system also provides electronic telephone dialing through the meeting room 96A interface. Each participant has a phone icon 118 in front of his or her avatar. If a participant wants to talk to any other person in the meeting, he or she may click on the phone icon and the telephone number to that person is dialed automatically. This allows the members to contact each other after meetings to talk further via regular phone lines if desired.

25 Electronic meeting room 96A functions may be implemented through third-party chat room applications such as Palace, commercially available from The Palace, Inc., Beaverton, Oregon. A chat room application may be integrated into the system and modified to provide additional functionality as required by the system. For instance, triggering of multimedia presentations during group meetings and the monitoring of attendance might be separately  
30 programmed into the chat room application.

Through on-line group meetings, the system allows users to maintain contact with other people who have the same or similar problems, all in entertaining ways that encourage and assist the user to adhere to program parameters and achieve program goals.

35 Referring back to FIG. 16B, the subroutine inquires in step 4020 whether the user has selected the Favorites option 3046 (FIG. 17). Upon a YES answer, the subroutine proceeds to step 4022 where it displays recipes, articles, Web pages, and the like, which the user has

1 designated as being among his or her favorites during usage of the system. According to one  
embodiment, a favorites page includes various sections, each section belonging to a particular  
category of favorite items (i.e. recipes, articles, Web pages, etc.). The items listed in each  
5 category are linked to corresponding display pages with information on the listed items. For  
example, selection of a recipe listed in a favorite recipes section causes the display of detailed  
instructions on how to prepare the selected recipe. If the user has selected the My Profile option  
3048 (FIG. 17), as inquired in step 4024 of the subroutine in FIG. 16B, the subroutine allows,  
in step 4026, the input and/or display of user profile information as well as enrollment into the  
10 system's membership directory. Upon enrollment into the directory, other members with similar  
goals and hobbies may contact the user and thus gain support and encouragement from each  
other.

FIG. 25 is an exemplary illustration of a graphics interface for enabling the user to enroll  
into the system's membership directory. The interface allows the user to provide his or her  
15 profile information including his or her real or member name, gender, and city and state of  
residence. The interface further allows the user to identify his or her lifestyle goals 2032. Such  
goals might include stress reduction, weight loss, exercise, nutrition, or smoking cessation. The  
user may also provide his or her occupation 2034 and hobbies and interests 2036, if desired.

Referring back to FIG. 16A, the main routine also inquires in step 4030 if the user has  
20 selected the Community 3030 (FIG. 17) icon from the main control bar 3026. The Community  
3030 icon provides access to various tools to help connect the individual with other members in  
similar behavior modification programs. The individual may thus share his or her fears,  
struggles, or concerns with members who will probably have faced or are facing the same issues,  
allowing the individual to get support and guidance from them. The cultivation of such a  
25 community, based on common goals and interests, also reinforces for all community members  
the overall behavior modification program's learning and skill-building components.

In a currently preferred embodiment, the system provides group support through a  
Meetings option 2052, Coffee Shop option 2054, Bulletin Board option 2056, and Making  
Friends option 2058 displayed on the subcontrol bar 3050 upon selection of the Community 3030  
30 icon. The selection of this icon invokes the exemplary subroutine illustrated in FIG. 16C. The  
subroutine first inquires in step 4032 whether user has selected the Meetings option 2052. If the  
answer is YES, the subroutine, in step causes the display of future electronic meetings available  
to the individual for participation 4034. The meetings may be divided into categories related to  
specific behavior modification programs.

35 FIG. 26 is a screen showing categories of future electronic meeting topics such as cardiac  
2040, stress management 2042, weight management 2044, health and wellness 2046, smoking  
cessation 2048, and the like. Based on the user's interest or condition, he or she may choose one

1 of the categories to view the sequence of meetings offered for the selected category. For  
instance, if the user's behavior modification program is aimed towards smoking cessation, the  
user may select the smoking cessation 2048 category to view a list of electronic meeting sessions  
5 that address issues relevant to smoking cessation. On the other hand, if the user is a user  
recovering from a recent heart attack, he or she might choose the cardiac 2040 category to view  
electronic meeting topics such as the ones illustrated in FIG. 27. The displayed meeting sessions  
may further provide a summary of the videos 2050 to be shown at the meetings.

Referring back to FIG. 16C, once a user determines the electronic session in which he or  
10 she wants to participate, the subroutine in step 4030 allows the individual to sign up for the  
meeting via a Schedule Meeting icon. According to one embodiment of the invention, the  
system displays the Schedule Meeting icon upon selection of the Meetings option 2052.

If, on the other hand, the user selected the Coffee Shop option 2054 (FIG. 27), as  
determined in step 4038, the subroutine allows the user to open chat sessions, enter private chat  
15 rooms, or chat with guest speakers in step 4040. In an alternative embodiment, the user may  
enter an electronic Coffee Shop during an electronic meeting by selecting a Coffee Shop 76B  
icon (FIG. 23).

FIG. 24 is an exemplary illustration an electronic Coffee Shop which allows for one-on-  
one meetings with more experienced members. Conversation in the Coffee Shop 76B occurs  
20 much like in the meeting room 96A, except that the conversation is not monitored or structured  
by a chairperson. The participant enters text at 132 and appears as bubble talk at 134. The  
system may provide a record of the conversation in a log window 130. Alternately, such  
conversations could be conducted in any number of configurations: text only, voice to text, or  
streaming audio/telephony.

25 In a preferred embodiment, the system allows up to four people into the Coffee Shop 76B  
at a given time. Such a restriction may be desirable to support the mentoring aspect of the Coffee  
Shop 76B. In the private setting of a Coffee Shop, more experienced individuals can pass on  
their experiences and advice as to how to overcome the obstacles that they may be facing to less  
experienced individuals.

30 Referring again to FIG. 16C, the subroutine also inquires in step 4042 whether the user  
has selected the Bulletin Board option 2056 from the submenu depicted in FIG. 27. If the user  
made such a choice, the subroutine causes the display of a bulletin board 4044 for allowing the  
user to read and post messages relating to his or her condition, behavior modification program,  
and related topics, and receive replies to such messages 4046. The bulletin board, therefore, is  
35 an additional group support mechanism for connecting an individual with other similarly situated  
people.

1 The subroutine of FIG. 16C also inquires in step 4048 whether the user has selected the  
Making Friends option 2058 (FIG. 28). The Making Friends option 2058 allows an individual  
to search for other members enrolled in the membership directory with similar behavior  
5 modification programs, hobbies, and the like. Allowing contact with people who may be facing  
the same problems reassures the individual that he or she is not alone with respect to those  
problems. Given the list of similarly situated people enrolled in the membership directory, the  
individual may contact these members and receive support, encouragement, and advice from  
them.

10 FIG. 28 illustrates exemplary search criteria for finding a desired member from the  
membership directory. Upon submission of the search criteria, the subroutine of FIG. 16C  
conducts a search 4050 of the membership database for matching the search criteria with profile  
information available for each enrolled member. As discussed above in conjunction with FIG.  
25, each member enters his or her profile information into the membership directory by selecting  
the My Profile option 3048. The system displays 4052 members with profiles matching the  
submitted search criteria on a Results List 2060 such as the one illustrated in FIG. 29.

15 Referring again to FIG. 16A, the main routine also inquires in step 4054 whether the user  
selected the Kitchen 3032 icon (FIG. 17). Such selection triggers the display of diet and food-  
related categories in the subcontrol bar 3050. As illustrated in FIG. 30, those categories might  
include an Eating Right option 2062, a Food Diary option 2064, a Home Cooking option 2066,  
20 and a Why Cook? Option 2068.

Selection of the Kitchen 3032 icon further invokes the subroutine illustrated in FIG. 16D.  
The subroutine starts by investigating in step 4056 whether the user selected the Eating Right  
option 2062. If the answer is YES, the subroutine displays in step 4058, several categories of  
25 information pertaining to food and diet available for selection by the user. As portrayed in FIG.  
30, selection of one of those categories causes the display of a list of articles or informational  
materials relevant to the selected category. For example, a person in a weight loss program  
might select a Weight Control category 2070 for viewing articles 2072 germane to weight loss.  
The user may also conduct searches of key words 2074 to find articles or information materials  
30 containing the key words desired.

The subroutine in FIG. 16D also determines in step 4060 whether the user chose the Food  
Diary option 2064 (FIG. 31). An affirmative answer causes the subroutine to display in step  
4062, an electronic food diary 2076 for inputting and/or viewing food intake information. The  
electronic food diary 2076 allows the user to periodically keep track of his or her eating habits  
35 to determine the amount of calories, fat, cholesterol, and the like, consumed.

In a preferred embodiment, the food diary 2076 is coupled to a food and ingredients  
database that stores a list of food and ingredients according to their brand or generic names. The



1 database preferably also stores calorie and nutritional information associated with a food or an  
ingredient. A user accesses the database when filling-out his or her food diary. In doing so, the  
user selects either a breakfast 2078, lunch 2080, or dinner 2082 category. In response, the system  
5 displays a pull down menu of foods belonging to the selected category. After the user selects the  
item from the pull down menu, the system inserts the food item consumed into the food diary.  
The user also includes the number of servings 2084 consumed, the time 2086 he or she consumed  
the food, the level of appetite 2088 the user had at that time, the emotions he or she was feeling  
2090, and the activity 2092 that he or she was performing (e.g. watching TV) during  
10 consumption. Based on the information, the system automatically calculates the total amount  
of calories 2094 consumed for a meal. The system further calculates a daily total 2096 of the  
total amount of calories consumed for the day. The calorie information is also broken down to  
the amount of calories from fat, and the total amount of cholesterol, sodium, and fiber the  
individual consumed for the day. Reports can be generated from the other parameters to make  
15 the user more aware of his or her eating patterns.

Referring back to FIG. 16D, the subroutine proceeds to inquire in step 4064 whether the  
user has selected the Home Cooking option 2066. Upon an affirmative answer, the subroutine  
allows the user to search and view recipes in step 4066 that conform with the individual's  
behavior modification program. FIG. 32 illustrates a Recipe Finder 2100 for conducting searches  
20 of recipes stored in a recipe database. The user may conduct searches based on the type of meal  
course 2102 (e.g. appetizers, salads, soups, main courses, basics, side dishes, desserts, or all meal  
courses). The user may also conduct searches based on the desired ingredients 2104 as shown  
in FIG. 33. The Recipe Finder 2100 further permits the user to search recipes based on his or her  
dietary requirements 2106. For instance, if the program calls for the user to consume only a  
25 certain amount of calories, or a certain amount of fat, the system incorporates this information  
in the search criteria to find recipes that match the criteria. FIG. 34 depicts an exemplary search  
for recipes based on a user's dietary requirements 2106.

The user may view the recipes retrieved by the Recipe Finder 2100 by selecting a view  
recipe icon 2108 (FIGS. 32-34). FIG. 35 illustrates an exemplary recipe including customary  
30 ingredients information 2110, cooking instructions 2112, and cooking time information 2114.  
The recipe further provides nutritional information 2116 such as the total amount of calories, fat,  
cholesterol, sodium, and fiber associated with the displayed recipe. The nutritional information  
presented might be important, for example, to a user whose behavior modification program  
requires that only a certain amount of calories or grams of saturated fat be consumed per day.

35 The system may alternatively display a virtual chef who provides cooking instructions  
to the user. In fact, the system might provide virtual characters for providing instructions,  
motivation, or guidance in other areas as applicable. The virtual characters might take the form

1 of flash animation, motion capture, real-time broadcast, or video. A user might interact with the virtual character via e-mail and the like. Users might also interact with the virtual character during a chat session hosted by the character. A virtual character adds a reality element to the system, which helps promote such interaction between the user and the virtual character.

5 If the subroutine in FIG. 16D determines, in step 4068, that the user has selected the Why Cook option 2068 (FIG. 30), the subroutine, in step 4070, enables the user to conduct a search for restaurant and food delivery information in the user's geographical area. The allowable search criteria may include, for example, location, type of food, price range, and the like. According to one embodiment, the system also allows the user to place orders to an identified restaurant or other food delivery service via the Internet.

10 Referring back to the main routine in FIG. 16A, the main routine also inquires in step 4080 whether the user has selected the Gym 3034 icon from the main control bar illustrated in FIG. 17. If such a choice was made, a subroutine as the one illustrated by FIG. 16E is invoked. If the user has accessed the Gym icon for the first time, the system provides introductory information about exercising by a virtual character 2120 as displayed in FIG. 36. This information is alternatively provided through a video clip triggered through the selection of the Gym icon for the first time. The virtual character performs the functions typical of a personal trainer, guiding and motivating the user in his or her exercise program.

15 Selection of the Gym icon further causes the display of a Work Out option 2128 and a Training Tips option 2130 on the subcontrol bar 3050. The system also invokes a subroutine such as the one illustrated in FIG. 16E. The subroutine first inquires whether the Work Out option was selected 4082. If the answer is YES, the subroutine causes the display of the user's individualized exercise program 4084, such as the one shown in FIG. 37, along with a graphical illustration of each exercise 2124 and the number of repetitions to be performed for each exercise. Selection of an illustrated exercise invokes a video demonstration 2126 of the exercise as shown in FIG. 38, guiding the user in its correct implementation. Alternatively, the virtual character might himself or herself demonstrate the exercise.

20 If the user wants to add exercises to his or her current exercise program, he or she may do so by selecting the exercises from an Aerobics exercise list, Strength training exercise list, and/or Flexibility exercise list.

25 If the subroutine of FIG. 16E determines, in step 4086, that the user has selected the Training Tips option 2130 (FIG. 39), the subroutine allows the user to the search and display exercise-related tips and information in step 4088. The user submits search terms through a search window 2132 as shown in FIG. 39. The Training Tips option also allows the user to display introductory information 2134 and training tips on specific types of exercises, such as

1 the individual's personalized exercises 2136, aerobic exercises 2138, strength exercises 2140, and flexibility exercises 2142.

5 Referring again to the main routine of FIG. 16A, the main routine also inquires in step 4090 whether the user has selected the Tranquility Park 3036 icon (FIG. 17). If the answer is YES, the system displays a My Program option 2150, Progressive Relaxation option 2152, and Take A Break option 2154 on the subcontrol bar 3050 as illustrated in FIG. 40. In addition, the system invokes a subroutine such as the one illustrated in FIG. 16F. The subroutine first inquires in step 4092 whether the user selected the My Program option 2150. An affirmative answer causes the subroutine to display a default page in step 4094, allowing access to the user's  
10 personalized stress management program. In a preferred embodiment, each session in the user's stress management program comprises an electronic excursion through a Stress Management Park. The excursion might be guided by a virtual psychologist to aid the user in stress management techniques. FIG. 39 shows a Stress Management Park 2170 with exemplary excursion sites. During each excursion, the user earns one or more pieces of gear or equipment that function as a stress management tool. The user also keeps a Stress Management Log during the tour. The log might be implemented as a separate tool accessible from the subcontrol bar 3050 upon selection of the Tranquility Park 3036 icon. Alternatively, the log might be implemented as part of the electronic journal which is accessible upon selection of the Journal  
15 option 3042 (FIG. 18).

20 One purpose of the log is to help the user learn how to reduce daily stress by applying the tools gained during the excursions. The user also preferably reviews the Stress Management Log before proceeding to the next excursion to consolidate what he or she has learned so far and apply it for the next excursion. The information and interactive exercises of the stress management program itself are thereby reinforced by being applied on a daily basis.  
25

Excursion 1 takes the user across Stress Canyon 2156 in which the user identifies stress in his or her life. Excursion 2 takes the user around Hourglass Butte 2158. In this session, the user learns about time management and problem-solving by taking a self-assessment quiz. An exemplary self-assessment quiz is shown in FIG. 41. Excursion 3 heads into Echo Mountains  
30 2160 where the user learns to modify negative thoughts that create and amplify stress. Excursion 4 leads the user to Perspective Point 2162. In this session, the user learns common-sense ways of dealing with stress to give the user a larger perspective on life. Excursion 5 crosses a Raging River 2164 where the user learns to control anger. Excursion 6 ends up in Harmony Meadows 2166 to teach the user effective and assertive communication skills. At the end of the excursions through Stress Management Park 2170, the user will have picked up different kinds of stress  
35 reduction tools and will most likely have learned which situations call for which tools to help him or her deal with a stressful situation.

1 Referring back to FIG. 16F, the subroutine next inquires in step 4096 whether the user  
selected the Progressive Relaxation option 2152 (FIG. 40). Upon such a selection, the  
subroutine, in step 4098, guides the user through various types of relaxation techniques to help  
5 him or her release tension in the body and stress in the mind. In a preferred embodiment, the  
system bases the types of relaxation techniques on the user's stress management program.  
During each excursion in the Stress Management Park 2170, the user practices a stress relaxation  
technique that complements the tools and skills presented in the excursion. FIG. 42 is an  
exemplary illustration of various types of relaxation techniques 2172 that the system might use  
10 with an individual's Stress Management Program.

Referring again to FIG. 16F, the subroutine also inquires in step 4100 whether the user  
selected the Take Break option 2154 (FIG. 43). Upon a positive answer, the subroutine presents  
the user with one or more choices of relaxation audio and video materials in step 4102. FIG. 43  
illustrates exemplary choices of such relaxation materials. If the user selects one of the choices,  
15 the subroutine proceeds to play the corresponding relaxation video and audio in step 4104, to  
soothe the individual's body and mind.

The main routine in FIG. 16A further inquires in step 4106 whether the user has selected  
the Library 3038 icon (FIG. 17). In such instance, the subcontrol bar 3050 displays, as illustrated  
in FIG. 27, a Research option 2160 and an Employee Assistance option 2162. The main routine  
20 further invokes a subroutine as the one illustrated in FIG. 16G. The subroutine inquires in step  
4108 whether the Research option was chosen. If the answer is YES, the subroutine continues  
to step 4110 where it displays a search engine for accessing articles and references in a Library  
database, as well as information on the World Wide Web. FIG. 44 is an exemplary screen  
display of a search engine upon the selection of the Research option 2160. An Archive 2164  
25 section of the search engine allows users to view exercise and nutritional information. A  
References 2166 section provides a description of various health-related reference materials  
where the user might find, for instance, prescreened information on doctors, clinics, rehabilitation  
centers and the like, via the Internet. A Resources 2168 section provides selected links to World  
Wide Web health and lifestyle sites of particular interest. The search engine also allows a user  
30 to conduct a search of key words 2170 of articles and references, and enter Web site addresses  
2170 to jump to a known Web page.

The content in the Archive 2164, References 2162, and World Wide Web 2168 resource  
sections may change based on the user's progress with his or her behavior modification program.  
For instance, if the system determines that the user is not making progress to achieve the desired  
35 goals, additional information and aid specifically catered to help the user to make the necessary  
progress is presented to the user.

1 If the subroutine illustrated in FIG. 16G determines in step 4112 that the user selected the Employee Assistance option, it displays special employee programs offered by the user's employer in step 4114. Such programs may range from employee carpooling information to  
5 suicide hotlines, and the like.

Referring back to FIG. 16A, if the user selects to Log Off, as inquired in step 4120, the process ends in step 4122, and the process terminates the user connection with the system.

FIGS. 45-72 illustrate an alternative embodiment of a system interface 18 (FIG. 1) allowing user interaction with the system. Referring to FIG. 45, the user interface for users in  
10 the clinical and wellness groups is organized around a village motif. The user progresses through the system by following paths through a graphically represented town square to destinations including the village gymnasium 71, tranquility park 72, post office 74, coffee shop 76, store 78, library 80, travel agency 82, as well as the user's own "home" 84. The village motif presents the user with an image of a community of support. The entire on-line community revolves around  
15 his or her recovery and well-being, and this helps bolster the user's confidence and motivation. Furthermore, the village motif provides an easy-to-understand representation of the system's structure. The user learns to navigate the system more quickly and easily because of the intuitive town layout.

Another benefit of the village motif is its familiarity. A user afraid of technology will be  
20 reassured through the symbolic images of home and neighbor, street and store. Finally, the user may find navigating an electronic "neighborhood" more enjoyable than a traditional text-menu-driven system. Other user interfaces, such as the one described in conjunction with FIG. 72, are also available.

Referring to FIG. 46, the inner core 86 of the village provides the user with a schedule  
25 book icon 90, a journal icon 94, a meeting room icon 96, a mail icon 98, and a rewards icon 92. These give the user access to additional tools that assist with complying with his or her health program, and further help the health advisor monitor such compliance.

Referring to FIG. 47, upon selection the schedule book icon 90 from the interface of FIG  
30 46, the system displays a graphical representation of a schedule book 90A. As shown in FIG. 48, the schedule book presents the user with a list of meetings that the user can participate in via his or her computer. The list of meetings varies for each user depending on his or her specific health recovery program. The schedule book also presents general information on the meetings, including time 100, date (not shown), and meeting profile 104, with a notation of how many  
35 people have signed up for the meeting 106. The system also sets a limit on the maximum number of individuals that may sign up for a meeting.

Based on this information, a user may then sign up for the meeting that best fits his or her schedule. Other factors, such as the city in which the other members are located 108 may also

1 influence the user's choice. A user may decide to join a group whose members are located in his or her home city if he or she wants to meet these people face-to-face someday.

5 The system integrates the user's schedule book 90A with the user's personal electronic daily calendar. For example, after a user signs up for a meeting, the system downloads the day and time of the meeting to the user's calendar. The calendar may be any suitable commercial calendar or organizer program, such as Organizer<sup>TM</sup> available from Lotus Development Corp.

In an alternate embodiment, the user may make a further request via the schedule book for automated reminders to be sent to him or her by e-mail.

10 Referring again to FIG. 46, the system also enables the user to access an integrated user journal 94 from the village's inner core and self-report their progress and describe their feelings. Selection of a journal icon leads the user to a journal 94A like one shown in FIG. 49. Upon entering the journal 94A, the user has the option to view the personal goals that have been set for him or her by the physician or case administrator. The journal also provides a diary used to make  
15 a daily record of information pertinent to accomplishing the user's goals. The journal 94A provides an important tool that lets the user express his or her feelings and fears in a context other than that of a support group. By journaling, the user can identify fears concretely, and thus begin to address them. Goal setting is also often more meaningful when it is written down. Instead of merely thinking about ambiguous hopes, users can define in written form the concrete  
20 milestones they plan to attain. These notes can also help remind the user of matters he or she might wish to discuss in support group meetings. The system also uses certain notations in the journal to assist in generating reports to the health advisor regarding the user's progress. As part of its overall security measures, the system separates those journal entries that the user wishes to keep private from those which are to be used in generating reports.

25 FIG. 50 exemplifies the type of information that may be contained in the journal. For instance, a heart user belonging to a clinical group may need to monitor his or her emotions 100 as well as the exercises he or she has been doing 104 by means of the journal. Depending on the user's program, the system might also prompt the user to input his or her vital signs 102, such as blood pressure and heart rate, in the journal. This can be done manually or automatically. For  
30 example, devices can be hooked into the computer's serial port for automatic input of blood pressure and heart rate into the system. Depending on the particular program, users might be required to weigh themselves on a weekly basis and/or measure their cholesterol level with a home cholesterol kit on a relatively less frequent basis. This information is stored in the system's database and is accessible to the physician and case advisor.

35 The kind of information required of a person in the wellness group may differ from this. For example, if a user is in the wellness group because a family member is suffering from a chronic illness, it will not be necessary for him or her to input vital signs into the journal. Rather,

1 information as to how he or she is doing emotionally, as well as information as to how much group support he or she is getting, may be solicited.

5 The user may also record his or her personal comments in the journal. This information may only be viewed by the individual user, and is not available to the health advisor.

The journal is also integrated with the user's daily calendar. The user may, for example, input information as to his or her exercise schedule (such as 30 minutes walking on Tuesdays, Thursdays, and Saturdays) or meditation schedule into the journal. The system then downloads this information into the user's daily calendar. Previous journal entries may also be viewed.

10 In addition to allowing the user to electronically enter his or her updated health information, the journal also provides the health advisor with a means of getting feedback on the user's progress. The information recorded in the journal is electronically forwarded to the case advisor. Alternatively, the case advisor has direct access to portions of the journal stored in the system's database. The health advisor can use the information provided in the journal to update the program on an on-going basis.

15 The system also accepts additional user data obtained during office visits or directly from the user via e-mail or other means of communication. The physician or health advisor may also input additional data, such as that derived from laboratory tests, into the system. Accordingly, the system accepts updated user data directly from the user and through data entered by the physician during office visits (blocks 1030, 1032 and 1034, FIG. 98).

20 The system automatically correlates the user's input with the physician's to check for accuracy. In addition, the system automatically provides the physician with reports of user progress. Depending on the user's plan requirements, the case advisor periodically reviews the user-reported and physician-reported input to monitor whether the user is complying with program parameters and meeting goals (block 1036, FIG. 98).

25 As part of the feedback process, the system provides an "alarm" option (block 1040, FIG. 98). The system compares actual data about the user with the goals and parameters residing in the system's database and automatically notifies the health advisor via e-mail or facsimile (or pager depending upon the severity of the problem), if a health risk is present (block 1042, FIG. 98). For instance, if a user's current blood pressure is potentially dangerous, the system will automatically send an alarm to the health advisor and require his or her immediate action.

30 If the difference between current data and goals does not present a threatening situation, the system will simply notify the health advisor that these goals are not being met. For example, if the current data states that the user has lost 5 pounds instead of 10, the system will notify the health advisor of this fact. This information, although not life-threatening, must nonetheless be addressed by the health advisor. He or she may then contact the user in order to support and to further motivate him or her to meet the desired goals (block 1044, FIG. 98). In addition, the

1 health advisor may recommend that the program be modified to suit the user's condition (block 1046, FIG. 98).

5 Regardless of whether an alarm condition exists, the system periodically correlates the updated user health information with the program goals to determine the user's progress and compliance with the program (block 1050). If the user is progressing in accordance with his or her program, the system informs the physician and/or case advisor (block 1052, FIG. 98). The health advisor may then provide positive reinforcement to the user. Depending on the user's progress, the health advisor can also determine whether to modify the program by altering the goals or moving the user into a different diagnostic category. The user may even be removed  
10 from the system if he or she has met program end goals (blocks 1054, 1056, FIG. 98).

The system also notifies the health advisor if the user is not progressing toward program goals or is not using the system (block 1060, FIG. 98). The case advisor along with the physician then determines whether to modify the user's program, provide the user with additional support, or remove the user from the system (blocks 1064, 1066 and 1068, FIG. 98).  
15

The system also enables direct feedback to the individual user. As one of the features of the journal, users may view their levels of compliance and achievement of goals. Users may not recognize they are making progress until presented with reminders of how much they have improved. System generated charts and summaries, discussed below with respect to FIGS. 76-79, provide users with an overview of how far they have come.  
20

Referring again to FIG. 46, as another tool to assist users to comply with their programs, the system offers an electronic meeting room and group support room interfaces via meeting room icon 96 through which a user receives on-going, on-line group support. The mail icon 98 gives a user access to the e-mail feature for allowing users to keep in constant contact with their physician, case advisor, or other users of the system. Although in the presently preferred embodiment of the invention communication is done via e-mail, other methods of communication may also be used. For instance, it is envisioned that the system will allow instant messaging, conference calls, and/or video conferencing as alternate means of communication. A user may also access his or her e-mail by selecting the village post office 74 shown in FIG. 45.  
25

Referring to FIG. 51, the system includes four different types of e-mail options: letters 140, postcards 142, telegrams 144, and audio e-mail 146. FIG. 52 is an example of a letter 140A, which functions as standard e-mail. FIG. 53 is an example of a postcard 142B, which may be used to send short notes. For instance, postcards may be sent to users to survey the level of satisfaction with the service provided by the system. The postcard would contain questions on this issue, and users would be asked to send the postcard back after having answered the questions.  
30  
35



1           FIG. 54 is an example of a telegram 144A, which has the highest priority among the types  
of e-mail provided by the system. The telegram may be used, for instance, to alert a user that he  
or she has missed a meeting, or just as a short note of encouragement by the case advisor or  
5           group leader to an individual user.

FIG. 55 is an example of an audio e-mail 146A notification. Upon clicking this icon,  
users can hear a recording of the message sent to them via speakers attached to their PCs.

The communications functionality may be implemented by integrating any one of a  
number of conventional e-mail programs with the system.

10           As will become more apparent from a detailed description of the system's other  
interfaces, the system takes a two-pronged approach to behavior modification: education and  
motivation. Entertainment is used as a means of both educating and motivating a user to make  
the sometimes difficult changes required for recovery or even for maintaining a healthy lifestyle.

15           Motivation is one approach to behavior modification. It is the path from education to  
compliance, which is a goal of the system as a whole. The support group and case advisor  
described above add a human element to this motivational component. Users are more likely to  
respond positively to the encouraging words of others than they would be to a program which  
must be followed in isolation.

20           The system's multimedia capabilities allow it to use graphics, videos, and music to  
communicate and educate. These features provide a refreshing boost to the user's endeavor to  
modify his or her behavior, replacing the drudgery typically associated with clinical medical  
rehabilitation programs. Segments featuring celebrities, medical experts, motivational speakers  
and successful program participants delivering motivational speeches and personal testimonials  
25           further inspire the user. Humor is integrated throughout the system, for example in the  
whimsical artwork. The entertainment derived from these features of the system is used to spark  
and maintain the user's interest in the unfolding drama of his or her recovery and lifestyle  
change.

30           The rewards feature is yet another motivational tool provided by the system. Referring  
again to FIG. 46, the reward "apples" icon 92 allows a user to view information on the rewards  
point system and how it works, as well as the user's own personal rewards account. The reward  
points may be exchanged for goods in the village store 78 or may be accumulated as frequent  
flyer miles for being redeemed for plane tickets in the village travel agency 82, respectively.

35           Education is a complementary behavior modification approach offered by the system.  
Education is provided through informative on-line multimedia presentations and the interactive  
areas of the village devoted to diet, exercise, and stress management. For example, the recipes  
provided in the village kitchen, discussed below in conjunction with FIGS. 56-59, are designed

1 to improve users' diets without forcing them to take on impossible austerities or give up their love for food.

5 Exercise and stress management programs, discussed below in conjunction with FIGS. 61-66, are designed both to allow for variety and to lie within the individual user's ability range. By making exercise and a healthy diet both feasible and interesting, the system enables users to stick with their new lifestyles.

10 The system also provides relevant articles and includes hyperlinks to other, reputable Internet sites devoted to providing medical and health-related information, as discussed below in conjunction with FIGS. 67-70.

Referring again to FIG. 45, the system encompasses a "home" 84 interface as part of the village motif. Upon its selection, a screen showing the inside of the user's "home" 84 follows, as depicted in FIG. 56. Once inside his "home" 84, the user may access the kitchen by selecting the kitchen icon 150.

15 FIG. 57 illustrates the interior of the user's kitchen 155. Once in the kitchen 150A, users have the option to get nutritional and dieting information from low-fat cookbooks 153, or view and print recipes from a recipe book 154. FIG. 58 gives an example of a recipe which may be contained in the recipe book 154.

20 Referring again to FIG. 57, users also have the option to prepare and print a shopping list 156. A user may chose several recipes from the recipe book 154, and the system can automatically enter the ingredients into the user's shopping list 156. The user can also manually enter items into the shopping list 156 via his or her PC keyboard. FIG. 59 gives an example of a user's shopping list.

25 The system can also indicate which recipes are allowable under the particular user's program. For example, the system might recommend certain low-fat items that meet the criteria of a user's program as well as suitable foods he or she might consider when eating out. The system is also capable of generating weekly shopping lists based on program parameters. According to personal preference, users may choose to substitute certain allowable foods for others.

30 Moreover, users have access to a pull-down computer menu by selecting the computer menu icon 152. From this computer menu, users can access various educational topics related to food, nutrition, and diet. One such topic may, for instance, relate to the basic food groups and may provide information as to the suggested amount of servings for each category of food, as shown in FIG. 60.

35 The guest chef 158 option shown in FIG. 57 further allows users to view audio or video clips of a chef showing how to prepare a certain recipe. In the presently preferred embodiment,

1 these clips are contained in the user's CD-ROM or DVD, but with proper technology could be sent via streaming audio or video.

5 From the kitchen, a user may substitute foods (e.g., asparagus for broccoli); access and print food related articles; view new recipes or articles by selecting the "what's new" button (not shown); or join a discussion group via a bulletin board (not shown).

10 Referring again to FIG. 45, another part of the village motif is the village gymnasium 71, which is used by the system to make recommendations or supply information regarding suitable exercise routines. Each exercise program is generated according to individualized parameters and needs, with progress being regularly charted by user input via the journal 94A (FIGS. 49-50).

Upon entering the gymnasium 71, a user may view featured video clips or listen to audio clips; do key-word searches to access and print exercise related articles; read and print exercise manuals; or join a discussion group via a bulletin board.

15 FIG. 61 illustrates the inside of a gymnasium 71 shown in FIG. 46. Shown here are various exercise topics 160 that a user may access. For instance, selecting the stretching topic 162 gives the user information on recommended exercises for stretching different muscle groups. FIG. 62 illustrates one such stretching exercise.

20 Similarly, selecting the strength training topic 164 gives the user information on recommended exercises to help strengthen various muscle groups. FIG. 63 illustrates one such strength training exercise.

Referring again to FIG. 46, the village tranquility park 72 focuses on stress management strategies, including relaxation techniques, biofeedback, yoga, and meditation. Upon entering the park 72, a user may access and print articles on stress management subjects; view video clips or listen to audio clips on these subjects; and join discussion groups via a bulletin board.

25 An expanded illustration of the tranquility park 72 is shown in FIG. 64. Upon selection of the relaxation option 170, an instructional article on the subject is invoked, as shown in FIG. 65. Similarly, upon selection of the yoga option 172, an instructional article about yoga is invoked, as shown in FIG. 66.

30 Referring back to FIG. 45, the system also gives access to a village library 80 which allows users to research germane topics. Thus, users interested in learning more about their medial condition may access the library 80 in order to educate themselves on the topic.

35 FIG. 67 illustrates the interior of the library 80. From here, a user may select an Articles option 180 to gain access to an available list of articles 186 via his or her CD-ROM, as shown in FIG. 68. The kind of articles 186 available to a user will vary depending on the type of user. For instance, if the user suffers from a chronic cardiac condition, the articles 186 will all relate to such topic. The list of articles 186 is updated on an ongoing basis to reflect new developments and research on the topic.

1 Users are also provided with hypertext links 188 to other reputable Internet sites devoted to providing medical and health-related information. These Internet sites may also be accessed by selecting the world wide web option 182 as shown in FIG. 67.

5 Once linked to an Internet article, a user is taken to a separate web browser from which he or she may navigate the web. FIG. 69 is an example of an Internet site to which a user might get connected upon selection of the World Wide Web option 182 of FIG. 67.

10 Furthermore, users have access to a pull-down menu by clicking the menu icon 184. From this menu, users can select various educational topics germane to the user's condition. For instance, an article available through the pull-down menu may teach a user suffering from a chronic cardiac condition how to determine his or her target heart rate zone, as shown in FIG. 70.

Users may also do key word searches to access and print articles of interest, to view featured video clips, or listen to audio clips.

15 Referring again to FIG. 45, the village store 78 and travel agency 82 are two additional interfaces accessible to users. Upon entering the store 78, users are taken to an in-house or third-party web site through which they may order relevant items, either on-line or by telephone.

Users may also search the store database and view product information, including pictures, descriptions, and prices of products. Moreover, users may view the status of their orders and contact customer service via e-mail or telephone.

20 Similarly, when a user enters the travel agency 82, he or she is linked to a third-party co-branded reservation system. FIG. 71 illustrates the inside of travel agency 82. From here, a user may make on-line travel reservations by selecting a Reservations option 202. A user may also view the frequent flier miles he or she has accrued so far by selecting a Check Reward Points option 200. As discussed above, a user may gain frequent flier miles by good participation in the program and reaching certain milestones.

25 FIG. 72 illustrates yet another embodiment of the user-interface for clinical and wellness group members. A multi-frame screen is shown which includes: a main navigation area 210; content area 212; message or video screen area 214; and an instructions area 216. The message or video screen area 214 may be used to show advertisements. The instructions area 216 may be used as a "What's New" area or for the bulletin board functionality discussed above for the kitchen 150A (FIG. 57), gymnasium 71 (FIG. 61), and tranquility park 72 (FIG. 64) interfaces.

30 FIGS. 73-96 illustrate user interfaces for the case advisor, administrator, and HMO, some of which are also accessible by the user. Unlike the user interface for users, the navigation for the physician/case advisor is generally less graphical and more chart oriented.

35 Referring now to FIG. 73, a log-on screen 220 for the user interface for a physician/case advisor is shown. The screen 220 requires the health advisor to input their name 222 and

1 corresponding password 224. Screen 220 thus acts as a security measure by ensuring that only legitimate users are able to gain access to the system.

5 Referring to FIG. 74, an initial screen containing a main menu 230 of the options available to the physician/case advisor follows the log-on screen 220. A Design Program For User option 232 allows a physician/case advisor to create a new program or modify an existing program for a user, as described above in conjunction with FIGS. 3-15.

A second option within the main menu 230 is a Review User Record option 234 which allows a physician/case advisor to review the health record of a particular user.

10 A list of current users (not shown), substantially similar to the list shown in FIG. 11 follows upon selection of a Review User Record option 234.

Referring now to FIG. 75, a health record of an exemplary user is shown. The record may provide identifying information, including the user's name 240, subscription ID 242, and social security number 244. Furthermore, information as to the total amount of time that the user has been participating in the program may be given as shown at 246.

15 Column 258 shows the user's vital signs and other health-related factors, such as blood pressure 250, number of cigarettes smoked per day 252, amount of physical activity 254, weight 256, and cholesterol level 258. Some of these factors may be monitored and reported on a weekly basis, as shown in columns 260-268. Other factors, such as the user's cholesterol level 258, may be monitored and reported on a bi-weekly basis, as shown in columns 260, 264, and 268. The ultimate goal to be achieved in each of the specified areas is given in column 272.

20 A list of the risk factors which may affect the user's recovery may further be pin-pointed as shown at 270.

Vital signs may be represented graphically for the user, physician and case advisor. These may include charts or graphs of the user's blood pressure 250A (FIG. 76), physical activity 254A (FIG. 77), weight 256A (FIG. 78), and cholesterol level 258A (FIG. 79). These graphs allow the physician/case advisor to review and grasp the user's progress visually over a period of time, and help him or her determine how the user is doing in relation to the ultimate goals that are to be achieved in the charted areas.

25 Referring again to FIG. 75, a physician/case advisor is also given an option 274 to assess the user's behavior. Upon selection of this option, the system provides a behavioral change assessment form 305 like the one shown in FIG. 80. This form 305 is used to determine how inclined the selected user is toward complying with the recommended program. In the preferred embodiment, on-line questionnaires are submitted to the users, asking them to rate their behavioral intention 300, self-efficacy 302, and social support 304. Alternate forms of evaluation may also be used to assess the likelihood of a user's compliance with the program.

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1 The system periodically assesses and reports the user's behavioral change as shown in columns 306 and 308. The desired goals 310 are also listed to monitor whether the user is making progress towards them. If a user continues to score low on the behavioral change assessment form 305, this may indicate that he or she is unable to make the commitment  
5 necessary to change his or her lifestyle, and lead to the conclusion that the user should be taken off the system.

The system generates reports on user progress based on the data shown in FIGS. 75-80, as frequently as the physician desires. These reports can be received via either e-mail or facsimile. The frequency of reports will depend on the needs of the particular user, and may be  
10 triggered by the achievement of goals or the setting off of alarm signals as described above.

The system can also generate regularly scheduled reports for a physician's review on a default basis, depending on a user's needs. For example, users who are relatively ill can be reviewed twice a week or more, even if no warning signals occur.

15 Upon receiving feedback from the system regarding changes to a user's behavior modification program, a physician or case adviser may want to make recommendations about the program. FIG. 81 shows an exemplary recommendation screen which follows the selection of a Recommend 276 option of FIG. 75. If, for example, a user initially placed on a program of walking 15 minutes three times a week loses 5 pounds and lowers his or her blood pressure, the  
20 system might generate a report to the physician recommending an increase in the user's walking time to 45 minutes per session as shown at 322. The system may further make recommendations as to the frequency and duration of stress reduction exercises 328 as well as on other areas of the program as shown at 326. The physician reading the report can accept 330 or modify 332 the recommendations.

25 The system's reporting features enable a physician to handle more users in the same amount of time without decreasing the quality of care. The system also allows for a user feedback loop independent of this self-monitoring capability. If the user has a difficult night, for example, he or she can send an e-mail through the system directly to the case advisor or the physician via the mail 98 (FIGS. 46, 51-55) or post office 74 (FIG. 45) interfaces.

30 Once the physician/case advisor is satisfied with the recommendations, he or she may electronically communicate 334 program changes to the subscriber.

FIG. 81 also shows an example of a user who has earned reward points 324 for not having smoked for 60 days. The reward points shown here are to be cashed in at the village store 78 shown in FIG. 45.

35 Referring to FIG. 82, the system presents a message screen upon the selection of a communications 334 option of FIG. 81. The case advisor may send the recommendation 346 made by the system and if appropriate reviewed and/or modified by the physician, to the

subscriber 340 with an attached audio e-mail message 344, or alternately via text e-mail or facsimile. A copy of the recommendation 346 and message 344 may also be stored in the system's database 342.

Physicians/case advisors may further communicate with users by video conferencing. An existing third-party video conferencing package may be integrated to the system to allow the video conferencing feature. The minimal requirements for a PC to support the video conferencing capability is a clock cycle of 90 megahertz, 24 megabytes of random access memory, a color camera, a video capture board, an audio board, a video input capture board, and an ISDN line. The technical specification may change as technology affecting bandwidth and/or data compression changes.

As shown in FIG. 82, the video conferencing feature may be accessed upon selection of a video conferencing option 347. A video conferencing manager, like one illustrated in FIG. 83 may then be used to conduct the video conference.

A health plan payor, such as an HMO, insurance company, or self-insured employer, may also access the system. Information that is released by a user may also be sent electronically to the health plan payor. The information can then be combined with the provider's information to analyze individual users or aggregate results of all people on the program. The analysis may include, for example, cost per user, cost for users in each category or group, and physician utilization. The system's relational database allows for the custom gathering of data, depending upon the requirements of the health plan. The system may also provide aggregate reports to the health plan payor for management review and cost control purposes. A health plan payor is probably less interested in looking at individual user files than in looking at information as to the number of subscribers on the system, the cost of keeping the subscribers on the system, and how this cost compares to that incurred by users who are not on the system. However, to address the security issues that may arise in giving health plan payors access to the system, the system provides several layers of electronic security measures to ensure the individual user's privacy, and strictly segregates the type of information available to the various parties who have access to the system.

Referring now to FIG. 84, a general system administrator provides various degrees of access to the system to other administrators and health advisors. For instance, an administrator 5000 identified as such may be given access to system database contents 5002 including access to all users. Such an administrator can modify the existing database content or add new content to the system database. FIG. 85 illustrates an exemplary screen for modifying nutritional program levels. Exercises may also be added and/or modified as illustrated in FIG. 86. In addition, the administrator may set up the electronic meeting topics and schedules, as well as add and/or modify contents in the Library database.

1 The user interface for the health plan payor is similar to the user interface used by a physician/case advisor. When the health plan payor signs onto the system, a main menu screen with a list of options available is provided, as shown in FIG. 87. From here, the payor may  
5 choose to view overall compliance status 350, perform case management review 352, perform an utilization review 356, review outcomes 354, or communicate 358, each of which options is described in further detail below.

10 Upon selection of a view compliance status 350 option, the health payor views current compliance status based on pre-determined categories 360, as shown in FIG. 88. For each category, information as to the total number of eligible users 364, number of participating users 366, participating users complying with the program 368, participating users put on probation due to lack of compliance 372, and users terminated 376, may be displayed. A comparative  
15 cost analysis screen is also invoked via a view comparative costs option 362. FIG. 89 shows an example of the cost of maintaining users on the system. The total cost 380 may be compared against costs incurred by a control group of users who have not subscribed to the system 382. Comparative savings achieved by use of the system are shown in column 384.

Referring back to FIG. 87, the main menu 348 also includes perform a case management review 352 option. A list of current users (not shown), substantially similar to the list shown in FIG. 11, follows selection of this option.

20 Once a user file has been selected, a confidentiality waiver information 390 is displayed, as shown in FIG. 90. A user will be assured confidentiality and privacy in the areas where waiver has not been given. For instance, portions of the user's journal will be kept confidential and unavailable to the health plan payor, ensuring that users remain open and honest in making daily journal entries.

25 Upon selection of a continue option 392, a screen similar in content to the screen shown in FIG. 75 is shown in FIG. 91. As with the user interface for physicians/case advisors, indications of the user's blood pressure level 404, physical activity 406, weight 408, and cholesterol levels 410 over time, are given. These may also be represented graphically to the health plan payor in a form substantially similar to FIGS. 76, 77, 78, and 79 respectively.

30 A health plan payor, however, has a review costs option 400 which is not available to a physician/case advisor.

FIG. 92 illustrates an exemplary screen viewable upon selection of the review costs option 400 of FIG. 91. Shown here is information as to the costs incurred to date in maintaining the selected user on the system. The system costs 410, health service costs 412, and total costs  
35 414 are represented in a bar graph format in this particular example. The cost incurred by a control group user who is not on the system is also shown 418. This cost is compared to the total



costs 414 and the amount of savings 416 thus achieved, and is also displayed in a bar graph format.

Referring back to FIG. 87, another option provided by the main menu 348 is a review outcomes 354 option, which provides a screen like the one shown in FIG. 93 with information as to the various user outcomes, based on various pre-determined categories. For instance, information as to the percent of compliant subscribers who had an emergency room ("ER") visit 420 is shown. This information may be compared against ER visits made by non-compliant subscribers 422 and control group users who have not subscribed to the system 424.

Referring back to FIG. 87, the main menu 348 also provides for a utilization review 356 option. As shown in FIG. 94, upon making this selection, a screen appears with information including the name of the group or facility using the system, this group or facility's specialty 432, the number of cases to date 434, the percentage of cases referred to the system 436, and how this percentage compares 438 to the targeted utilization percentage 440.

Upon selection of a particular group or facility 442, the same type of information for the doctors within the selected group or facility 442 may be obtained, as shown in FIG. 95.

The main menu 348 in FIG. 87 further provides a communicate 358 option leading to FIG. 96. The health plan payor may send an audio e-mail 456, text e-mail 458, or fax 460 to the case advisor 450, responsible physician 452, or subscriber 454 as shown here.

In this way, the system provides an on-going loop of compliance monitoring and feedback to help the user make difficult lifestyle changes. Once the user has achieved the desired goals, he or she can continue to use the system as a health maintenance or wellness program. An aim of the system is to educate and motivate users to take control of their lives and improve their health by modifying their behavior and changing their lifestyles.

FIG. 97 is a block diagram of the present system. It will be apparent to those skilled in the art that the invention described herein may be implemented on various platforms. In a preferred embodiment, however, users, physicians, case advisors, and health plan payors have access to a PC 500 with a Pentium microprocessor. The PC 500 contains audio and CD-ROM 502 capabilities. However, a PC 500 may have other multimedia capabilities including video display and capture capabilities, microphones, etc. The PC 500 is further connected to a printer 504 for generating hard copies of any data accessible by the computer.

In a preferred embodiment, the operating system utilized by the PC 500 is a windows-based operating system, preferably Windows 98. Each PC 500 is electronically linked to network server 508 via the Internet 518. Contained in each server 508 is a transaction server 510, meeting server 512, "inner circle" server 514, and "outer circle" server 516. The transaction server 510 is utilized to handle secure purchases via the store 78 (FIG. 46) or travel agency (FIG. 71) interfaces.

1 The secure meeting server 512 is dedicated to implementing the meeting room 96 and coffee shop functionality discussed in reference to FIGS. 23, 24, and 46. The secure "inner circle" server 514 is dedicated to handle sensitive data, such as medical records.

5 Other servers may be added as needed. For instance, there may be a separate media server to handle the audio and video functionality of the system.

10 In an alternative embodiment, the system comprises a content server, a data server, and a chat server. The content server manages all data and information provided by the system except for information pertaining to individuals utilizing the system. The data server manages data of all individuals utilizing the system. The chat server manages electronic meetings and Coffee Shop meetings.

15 Communication via the Internet 518 is achieved in the preferred embodiment of the invention through telephone lines by means of a high-speed modem 506 connected to the PC 500. Alternatively, satellites, television cable systems, and ISDN lines may be utilized to access the Internet 518. Standard TCP/IP is utilized as the protocol to communicate between the servers 508 and a PC 500 via the Internet 518.

20 The network server 508 may be located at a health plan payor facility with an independent third party that acts as an Internet Service Provider or elsewhere. The servers 510-516 have access to one or more relational databases 522 (such as SQL) that contain all the health plan data, including information input to the journal and schedule book information. For example, pertinent information from a user's journal will be uploaded to the server and downloaded to the physician and case advisor. Information provided by the physician will also be uploaded to the same server. System data will be downloaded to the case advisor on a periodic basis for review.

25 All the information needed by a user of the system is located in the databases 522 or on CD-ROM and/or DVD distributed to the users on a periodic basis, or, as technology permits, via streaming audio and video. For instance, in the presently preferred embodiment, the video and audio clips available to a chairperson 114 for conducting meetings (FIG. 23), or for the kitchen (FIGS. 56-60), gym (FIGS. 36-39, 26), tranquility park (FIGS. 40-43, 29), and library (FIG. 32) interfaces is located on CD-ROM or DVD. However, with the emergence of ISDN, cable modem, XDSL, and direct satellite delivery, it is anticipated that the system will be capable of  
30 sending streaming video and audio over the network.

35 There are three levels of security implementation to help achieve secure transmission of data to and from the servers 510-516, as well as to ensure that only authorized users may access the databases 522. User security for users, physicians/case advisors, and health plan payors is assured by a two tier (user id and password) system. An example of such log-on screen is shown in FIG. 73.

1 Furthermore, a "cookie"-based code is used to monitor when users log in and out, and to keep track of how each user uses the system. This will, for example, allow the system to keep attendance at group meetings. If a user has missed a group meeting, the case advisor would then  
5 be able to follow up with him or her about the absence.

Referring back to FIG. 97, a firewall 520 is also provided at the server level to protect confidentiality of health plan data. Furthermore, encryption is furnished to ensure that communication between servers 510-516 and PCs 500 is secure.

10 A network administrator 524, who may be the case administrator or an independent third party, is also attached to the server 508. As described above, the network administrator subscribes all users to the system except for clinical or wellness group participants. Physicians or case advisors are responsible for subscribing clinical or wellness members. The network administrator is also in charge of maintaining the system's databases 522.

15 In the preferred embodiment, the system is constructed using Java servlets in conjunction with Java Database Connectivity (JDBC), the Oracle Relational Database Management System (RDBMS), Common Object Request Broker Architecture (CORBA), HTML, Dynamic HTML (DHTML), and Macromedia Flash. In an alternate embodiment, the system is constructed using Cold Fusion 4.0 in conjunction with SQL 6.5, Visual Basic, Javascript, Macromedia Flash 3.0, Active X, HTML, and Dynamic HTML (DHTML).

20 It will be understood that the foregoing is merely illustrative of the principles of the invention, and that various modifications can be made by those skilled in the art without departing from the spirit and scope of the invention as defined by the following claims. For example, the system can be programmed in any number of programming languages to achieve the underlying principles of the present invention. The screens can be reformatted to change their  
25 appearance, and many different data sets can be used for various users with different chronic diseases or other needs.

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## CLAIMS:

- 5           1.     A computer-based personal portal integrated with a behavior modification program, the behavior modification program having a series of milestones and being personalized to the needs of an individual user, the personal portal comprising:
- means for customizing access to Internet sites and other sources of information, services, and resources which suit the individual interests of the user;
- 10            means for providing tools and educational materials germane to the user's personalized behavior modification program;
- means for prompting compliance data from the user, the compliance data being used for monitoring user progress toward achievement of the milestones; and
- means for providing feedback to the user based on the compliance data, the feedback for re-enforcing positive behavior and discouraging negative behavior.
- 15           2.     The personal portal of claim 1 further comprising:
- means for updating information presented to the user; and
- display prompts for motivating the user to use the tools and educational materials germane to the behavior modification program.
- 20           3.     The personal portal of claim 1, wherein the means for providing feedback to the user further comprises means for displaying articles and resources for aiding achievement of the milestones, the articles and resources displayed being based on the user progress toward the milestones.
- 25           4.     The personal portal of claim 3, wherein the resources comprise advertisement of products for aiding achievement of the milestones, as well as the means to purchase such products via e-commerce.
- 30           5.     The personal portal of claim 2, wherein the means for updating information comprises a smart agent for finding information on the Internet relevant to the behavior modification program.
- 35           6.     The personal portal of claim 1 further comprising means for integrating third party software for addressing core needs of the user.

1 7. The personal portal of claim 6, wherein the third party software provides personal effectiveness training.

5 8. A computer-based behavior modification program, compliance monitoring and feedback system comprising:

means for providing a behavior modification program having a series of milestones for a user;

means for inputting user data at prescribed times;

10 means for correlating the data using a microprocessor with the milestones in the behavior modification program to determine whether the user is complying with the program;

means for grouping particular data using the microprocessor and linking the particular data to a remote computer; and

15 a personal portal integrated with the behavior modification program for encouraging use of the system on a regular basis, the portal providing customizable access to Internet sites and other sources of information which suit the individual interests of the user, and further providing access to tools and educational material germane to the user's personalized behavior modification program.

20 9. The system of claim 8, wherein the personal portal further comprises:

means for automatically identifying the user's behavior modification program; and

means for automatically providing access to Internet sites and other sources of information germane to the identified behavior modification program.

25 10. The system of claim 8, wherein the personal portal further comprises:

means for updating information presented to the user; and

display prompts for motivating the user to use the tools and educational materials germane to the behavior modification program.

30 11. The system of claim 10, wherein the means for updating information comprises a smart agent for finding information on the Internet relevant to the behavior modification program.

35 12. The system of claim 8 further comprising means for integrating third party software for addressing core needs of the user.

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13. The system of claim 12, wherein the third party software provides personal effectiveness training.

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14. The system of claim 8, wherein the personal portal comprises:  
means for monitoring user progress toward achievement of program milestones; and  
means for displaying articles and resources for aiding achievement of the milestones, the  
articles and resources displayed being based on the user progress toward the milestones.

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15. The system of claim 8 further comprising means for promoting compliance with the program, the means for promoting compliance including a plurality of graphical screens configured to entertain and engage the user while providing the user with information pertinent to the program.

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16. The system of claim 15, wherein the graphical screens comprise a virtual character for providing instructions to the user pertinent to the program.

20  
17. The system of claim 15, wherein the means for promoting compliance further comprises means for presenting the user with feedback data reflecting user progress toward program milestones.

18. The system of claim 15 wherein the means for promoting compliance further comprises means for rewarding the user for complying with the behavior modification program.

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19. The system of claim 15, wherein the means for promoting compliance further comprises:

means for promoting modification of the user's diet;  
means for promoting exercise;  
means for promoting stress management; and  
30 means for providing a support mechanism during participation in the behavior modification program.

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20. The system of claim 19, wherein the means for promoting modification of the user's diet comprises means for electronically educating the user on topics germane to food and diet.

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21. The system of claim 19, wherein the means for promoting modification of the user's diet comprises means coupled to a food and ingredients database for automatically calculating calories and other nutritional aspects of food consumed by the user.

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22. The system of claim 19, wherein the means for promoting modification of the user's diet comprises means coupled to a recipe database for recommending recipes to the user based on the behavior modification program.

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23. The system of claim 19, wherein the means for promoting modification of the user's diet comprises means coupled to a restaurant and food-delivery database for recommending restaurants and food-delivery services in the user's geographical area.

15  
24. The system of claim 23 further comprising means for electronically placing an order to the recommended restaurant.

25  
25. The system of claim 19, wherein the means for promoting exercise comprises means for electronically educating the user on exercise related topics.

20  
26. The system of claim 19, wherein the means for promoting exercise comprises a means for presenting an animated demonstration of an exercise, the exercise being part of the user's behavior modification program.

25  
27. The system of claim 19, wherein the means for promoting stress management comprises means for electronically educating the user on topics germane to stress management.

28. The system of claim 19, wherein the means for promoting stress management comprises means for electronically providing a stress management session for aiding the user identify and reduce stress.

30  
29. The system of claim 19, wherein the means for promoting stress management comprises means for electronically guiding the user through a relaxation exercise.

35  
30. The system of claim 19, wherein the means for providing a support mechanism comprises means for electronically linking the user to a plurality of other users having related behavior modification programs.

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31. The system of claim 19, wherein the means for providing a support mechanism comprises means for providing an on-line group meeting based on the behavior modification program.

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32. The system of claim 31, wherein the means for providing the on-line group meeting further comprises means for expressing emotion during participation in the meeting.

10  
33. The system of claim 19, wherein the means for providing a support mechanism comprises means for providing an electronic mentoring area for mentoring and providing support to the user.

15  
34. The system of claim 19, wherein the means for providing a support mechanism comprises electronic bulletin-board means for posting messages and reading messages to and from other users having related behavior modification programs.

35. The system of claim 19, wherein the means for providing a support mechanism comprises:

20 means for providing a search criteria for finding an individual who matches the search criteria;

means for searching a membership database for the individual; and

means for providing contact information of the individual matching the search criteria.

25  
36. The system of claim 8 further comprising an electronic journal for allowing input and integrated display of program-related information and non-program related information pertaining to the user's personal schedule, the program-related information being available to a health advisor for monitoring user compliance and providing feedback to the user about the user compliance.

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37. The system of claim 8 further comprising computer-implemented means for preventing unauthorized access to the system.

38. The system of claim 8 further comprising computer-implemented means for administrating system access and system contents.

35  
39. A computer-based goal oriented program, compliance monitoring and feedback system comprising:



1 means for providing a series of program goals for a user;  
means for inputting user data at prescribed times;  
means for correlating the data using a microprocessor with the goals in the program to  
5 determine whether the user is taking actions for meeting the goals;  
means for grouping particular data using the microprocessor and linking the particular  
data to a remote computer; and  
a personal portal integrated with the program for encouraging use of the system on a  
regular basis, the portal providing customizable access to Internet sites and other sources of  
10 information, services, and resources which suit the individual interests of the user, and further  
providing access to tools and educational material germane to the user's personalized program.

40. The system of claim 39, wherein the personal portal further comprises:  
means for automatically identifying the user's program; and  
15 means for automatically providing access to Internet sites and other sources of  
information germane to the identified program.

41. The system of claim 39, wherein the personal portal further comprises:  
means for updating information presented to the user; and  
20 display prompts for motivating the user to use the tools and educational materials  
germane to the user's program.

42. The system of claim 41, wherein the means for updating information comprises  
a smart agent for finding information on the Internet relevant to the behavior modification  
25 program.

43. The system of claim 39 further comprising means for integrating third party  
software for addressing core needs of the user.

30 44. The system of claim 43, wherein the third party software provides personal  
effectiveness training.

45. The system of claim 39, wherein the personal portal comprises:  
means for monitoring user progress toward achievement of the goals; and  
35 means for displaying articles and resources for aiding achievement of the goals, the  
articles and resources displayed being based on user progress toward the goals.

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46. The system of claim 39 further comprising means for promoting compliance with the program, the means for promoting compliance comprising a plurality of graphical screens having means for entertaining and engaging the user while providing the user with information pertinent to the program.

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47. The system of claim 46, wherein the graphical screens comprise a flash animation character for providing instructions to the user pertinent to the program.

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48. The system of claim 46, wherein the means for promoting compliance further comprises means for presenting the user with feedback data reflecting user progress toward the goals.

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49. A method for assisting an individual to comply with a therapeutic behavior modification program, the method comprising the steps of:

providing a behavior modification program having a series of milestones for a user;  
inputting user data at prescribed times;

correlating the data using a microprocessor with the milestones in the behavior modification program to determine whether the user is complying with the program;

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grouping particular data using the microprocessor and linking the particular data to a remote computer; and

encouraging use of the system on a regular basis via a personal portal, the portal providing customizable access to Internet sites and other sources of information which suit the individual interests of the user, and further providing access to tools and educational material germane to the user's personalized behavior modification program.

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50. The method of claim 49 further comprising the steps of:

automatically identifying the user's behavior modification program via the personal portal; and

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automatically providing access to Internet sites and other sources of information germane to the identified behavior modification program via the personal portal.

51. The method of claim 49, wherein the step of encouraging use of the system on a regular basis comprises:

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updating information presented to the user on the personal portal; and

presenting display prompts on the personal portal for motivating the user to use the tools and educational materials germane to the behavior modification program.

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52. The method of claim 51, wherein the step of updating information comprises finding information on the Internet relevant to the behavior modification program.

5

53. The method of claim 49 further comprising the step of integrating third party software for addressing core needs of the user.

10

54. The method of claim 53, wherein the third party software provides personal effectiveness training.

15

55. The method of claim 49 further comprising the steps of:  
monitoring user progress toward achievement of program milestones via the personal portal; and  
displaying articles, services, and resources via the personal portal for aiding achievement of the milestones, the articles, services, and resources displayed being based on the user progress toward the milestones.

20

56. The method of claim 49 further comprising the step of promoting compliance with the program by displaying a plurality of graphical screens configured to entertain the user while providing the user with information pertinent to the program.

25

57. The method of claim 56, wherein the graphical screens comprise a virtual character for providing instructions to the user pertinent to the program.

58. The method of claim 56, wherein the step of promoting compliance with the program further comprises the step of presenting the user with data reflecting user progress toward program milestones.

30

59. The method of claim 56, wherein the step of promoting compliance with the program further comprises the step of rewarding the user for complying with the behavior modification program.

35

60. The method of claim 56, wherein the step of promoting compliance with the program further comprises the steps of:  
promoting modification of the user's diet;  
promoting user exercise;  
promoting stress management; and

1 providing a support mechanism during participation in the behavior modification program.

5 61. The method of claim 60, wherein the step of promoting modification of the user's diet comprises the step of electronically educating the user on topics germane to food and diet.

62. The method of claim 60, wherein the step of promoting modification of the user's diet comprises the steps of:

10 displaying a food diary to the user, the food diary being configured to accept user input about a food consumed by the user;

automatically calculating the calories and other nutritional aspects of the consumed food; and

15 displaying the calorie and nutritional information of the consumed food to the user.

63. The method of claim 60, wherein the step of promoting modification of the user's diet comprises the steps of:

searching a recipe database for a recipe conforming with the behavior modification program; and

20 displaying the recipe to the user as a recommended recipe.

64. The method of claim 60, wherein the step of promoting modification of the user's diet comprises the steps of:

25 searching a restaurant and food-delivery database for a food establishment in the user's geographical area matching user search parameters; and

displaying information on a matched food establishment to the user.

65. The method of claim 64 further comprising the step of electronically placing an order to the matched food establishment.

30 66. The method of claim 60, wherein the step of promoting user exercise comprises the step of electronically educating the user on exercise related topics.

35 67. The method of claim 60, wherein the step of promoting user exercise comprises the step of presenting an animated demonstration of an exercise, the exercise being part of the user's behavior modification program.

1 68. The method of claim 60, wherein the step of promoting stress management comprises the step of electronically educating the user on topics germane to stress management.

5 69. The method of claim 60, wherein the step of promoting stress management comprises the step of electronically providing a stress management session for aiding the user identify and reduce stress.

10 70. The method of claim 60, wherein the step of promoting stress management comprises the step of electronically guiding the user through a relaxation exercise.

15 71. The method of claim 60, wherein the step of providing a support mechanism comprises the step of electronically linking the user to a plurality of other users having related behavior modification programs.

72. The method of claim 60, wherein the step of providing a support mechanism comprises the step of providing an on-line group meeting based on the behavior modification program.

20 73. The method of claim 72, wherein the step of providing the on-line group meeting further comprises the step of visually depicting an emotion of the user during participation in the meeting.

25 74. The method of claim 60, wherein the step of providing a support mechanism comprises the step of providing an electronic mentoring area for mentoring and providing support to the user.

30 75. The method of claim 60, wherein the step of providing a support mechanism comprises the step of providing an electronic bulletin-board for posting messages and reading messages to and from other users having related behavior modification programs.

76. The method of claim 60, wherein the step of providing a support mechanism comprises:

35 providing a search criteria for finding an individual who matches the search criteria;  
searching a membership database for the individual; and  
providing contact information of the individual matching the search criteria.

1

77. The method of claim 49 further comprising the steps of:

displaying an electronic journal to the user;

5 receiving user input of information relating to user compliance with the behavior  
modification program through the electronic journal;

correlating user input with the milestones in the behavior modification program;

10 providing the correlated information to a case advisor for monitoring user compliance and  
providing feedback to the user about the user compliance; and

displaying the correlated information on the electronic journal.

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FIG. 1

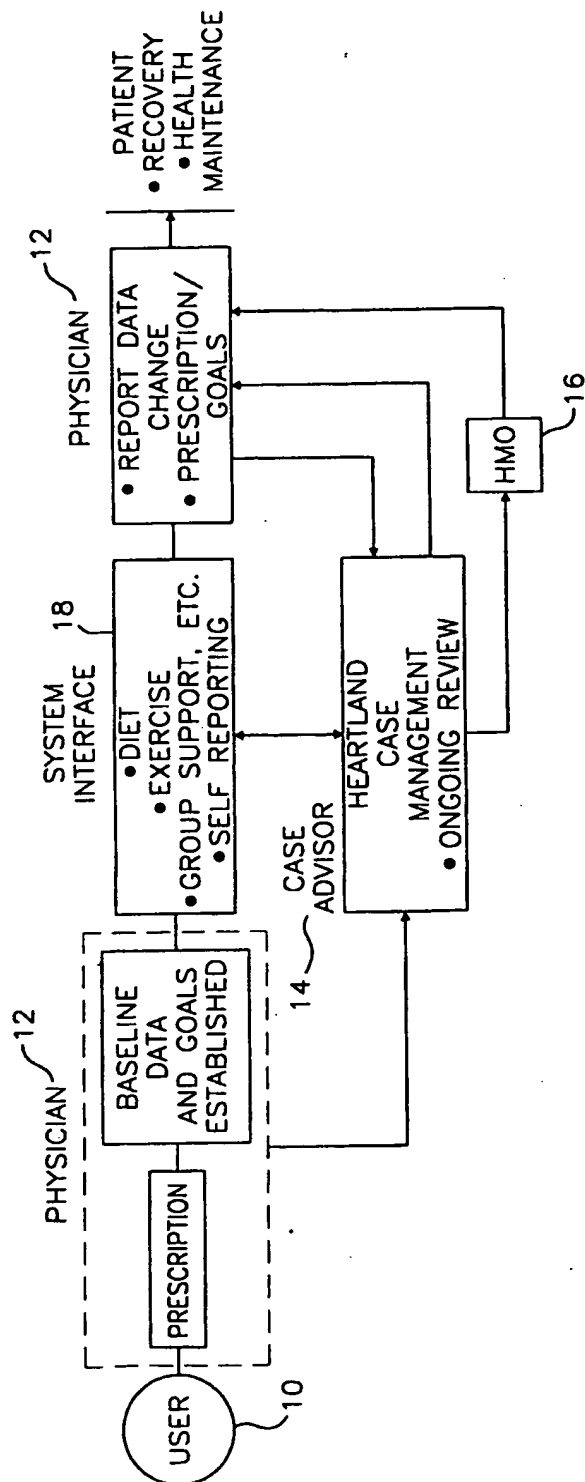


Fig. 2

Administration		Content		Health/Advisor		Data Analysis	
User Search				View All Users			
Search For User				Add New User			
SalusID: <input type="text"/> Last Name: <input type="text"/> SSN: <input type="text"/>				<b>Personal Contact Information</b> <b>184 : Smith, Fred</b> Please note that all fields noted with an asterisk are required.			
Fred Smith (184)				fred fred11 Fred A Smith Johnson Male <input checked="" type="checkbox"/>			
Information:				Date of Birth: 06 / 11 / 47 (i.e., 060040-9)			
Personal:				Social Security #: 211 - 81 - 9222			
Medical:				Home Address 1: 1453 Dickens Lane			
Medical Contact:				Home Address 2:			
Medication:				City: Sherman Oaks			
Surgery:				State: AL			
Additional Medical:				Zip: 90223			
Dietary & Exercise:				Home Phone: 818 555 1010			
Alcohol Consumption:							
Stress:							
Family, Social, Religious:							
Sexuality:							
Goal:							
Salus Only:							

2000  
2002

SUBSTITUTE SHEET (RULE26)



Fig. 3

User Search		View All Users		Add New User	
<div> <div>Administration</div> <div>Content</div> <div>Health Advisor</div> <div>Data/Analysis</div> </div>					
<div> <div>Search For User</div> <div> <div>Salus ID: <input type="text"/></div> <div>Last Name: <input type="text"/></div> <div>SSN: <input type="text"/></div> </div> <div> <div>Search</div> <div> <div>184</div> <div>Fred Smith</div> </div> </div> </div>					
<div> <div>Medical Profile</div> <div>184: Smith, Fred</div> <div>Please note that all fields indicated by an asterisk must be filled out.</div> </div>					
<div>Personal Information</div> <div> <div>Height * <input type="text" value="70"/> inches</div> <div>Goal Weight <input type="text" value="200"/> lbs</div> <div>Waist * <input type="text" value="40"/> inches</div> <div>Waist to Hip Ratio <input type="text" value="94"/></div> <div>Body Mass Index (BMI) <input type="text" value="75"/> BMI</div> <div>Resting Heart Rate * <input type="text" value="85"/> bpm</div> <div>Blood Pressure * <input type="text" value="160"/> systolic / <input type="text" value="100"/> diastolic</div> <div>Blood Type <input type="text" value="O-"/></div> </div>		<div> <div>Current Weight * <input type="text" value="220"/> lbs</div> <div>Body Fat * <input type="text" value="21.0"/> %</div> <div>Hip * <input type="text" value="43"/> inches</div> </div>		<div> <div>Glucose (via finger stick after fasting for 12 hours) * <input type="text" value="140"/></div> <div>Lipid Profile (via finger stick after fasting for 12 hours)</div> <div>Cholesterol - HDL * <input type="text" value="35"/> Cholesterol - LDL * <input type="text" value="210"/> Ratio <input type="text" value="600"/> to 1</div> <div>Total Cholesterol * <input type="text" value="260"/> Triglycerides * <input type="text" value="305"/></div> </div>	
<div> <div>Medical Contact</div> <div> <div>2002</div> <div>2006</div> </div> </div>		<div> <div>Are you a smoker? *</div> <div> <div>Yes</div> <div>No</div> </div> </div>			
<div> <div>Additional Medical</div> <div> <div>Surgery</div> <div>Additional Medical</div> <div>Dietary &amp; Exercise</div> <div>Alcohol Consumption</div> <div>Stress</div> <div>Family, Social, Religious</div> <div>Sexuality</div> <div>Goal</div> <div>Salus Only</div> </div> </div>					

SUBSTITUTE SHEET (RULE26)

**SUBSTITUTE SHEET (RULE26)**



Fig. 6

Administration

User Search

Search

Fred Smith  
(184)

Information

Personal Medical

Medical Contact

Medication

Surgery

Additional Medical

Dietary & Exercise

Alcohol Consumption

Stress

Family Social Religious

Sexuality

Goal

Salus Only

Vital Statistics

Programs

View Progress

Content

Health Advisor

Data Analysis

Add New User

View All Users

**Vital Statistics**

Please select the items that you would like Fred to track in his journal and how often you would like his to track these statistics.

Tracking Start Date:	Aug 24	1	1998
Weight	Once a week		
Body Fat	not applicable		
Waist	Every 30 days		
Hip	Every 30 days		
Blood Pressure	Once A day		
Resting Heart Rate	Once A day		
Cholesterol	Every 90 days		
Glucose	not applicable		

2019 2020 2021

SUBSTITUTE SHEET (RULE26)

Fig. 7

Administration		Content		Health Advisor		Data Analysis	
User Search				View All Users		Add New User	
<div> <div> Information Personal Medical Medical Contact Medication Surgery Additional Medical Dietary &amp; Exercise Alcohol Consumption Stress Family, Social, Religious Sexuality Goal Status Only Vital Statistics Programs Exercise Nutrition Stress Management Support Group Meeting View Progress </div> <div> Strength training exercise list </div> </div>							
<input checked="" type="checkbox"/>	Abdominal	Biceps Curls	Weight <input type="text"/> lbs <input type="text"/>	repetitions <input type="text"/>			
<input type="checkbox"/>	Abdominal	Biceps Curls w/ weights	Weight <input type="text"/> lbs <input type="text"/>	repetitions <input type="text"/>			
<input checked="" type="checkbox"/>	Abdominal	Chair Abdominal Work	Weight <input type="text"/> lbs <input type="text"/>	repetitions <input type="text"/>			
<input checked="" type="checkbox"/>	Abdominal	Shoulder Curl-Up	Weight <input type="text"/> lbs <input type="text"/>	repetitions <input type="text"/>			
<input type="checkbox"/>	Abdominal	Straight Arm Curl-Ups	Weight <input type="text"/> lbs <input type="text"/>	repetitions <input type="text"/>			
<input type="checkbox"/>	Abdominal	Full Curl-Ups	Weight <input type="text"/> lbs <input type="text"/>	repetitions <input type="text"/>			

2022  
2024

SUBSTITUTE SHEET (RULE 26)

*Fig. 8*

**Administration** **Content** **Health Advisor** **Data Analysis**

**User Search** **View All Users** **Add New User**

**Personal**  
**Medical**  
**Medical Contact**  
**Medication**  
**Surgery**  
**Additional Medical**  
**Dietary & Exercise**  
**Alcohol Consumption**  
**Stress**  
**Family, Social, Religious**  
**Sexuality**  
**Goal**  
**Salus Only**  
**Vital Statistics**  
**Programs**  
**Exercise**  
**Nutrition**  
**Stress Management**  
**Support Group Meeting**  
**View Progress**

**Nutrition program : Level 1**

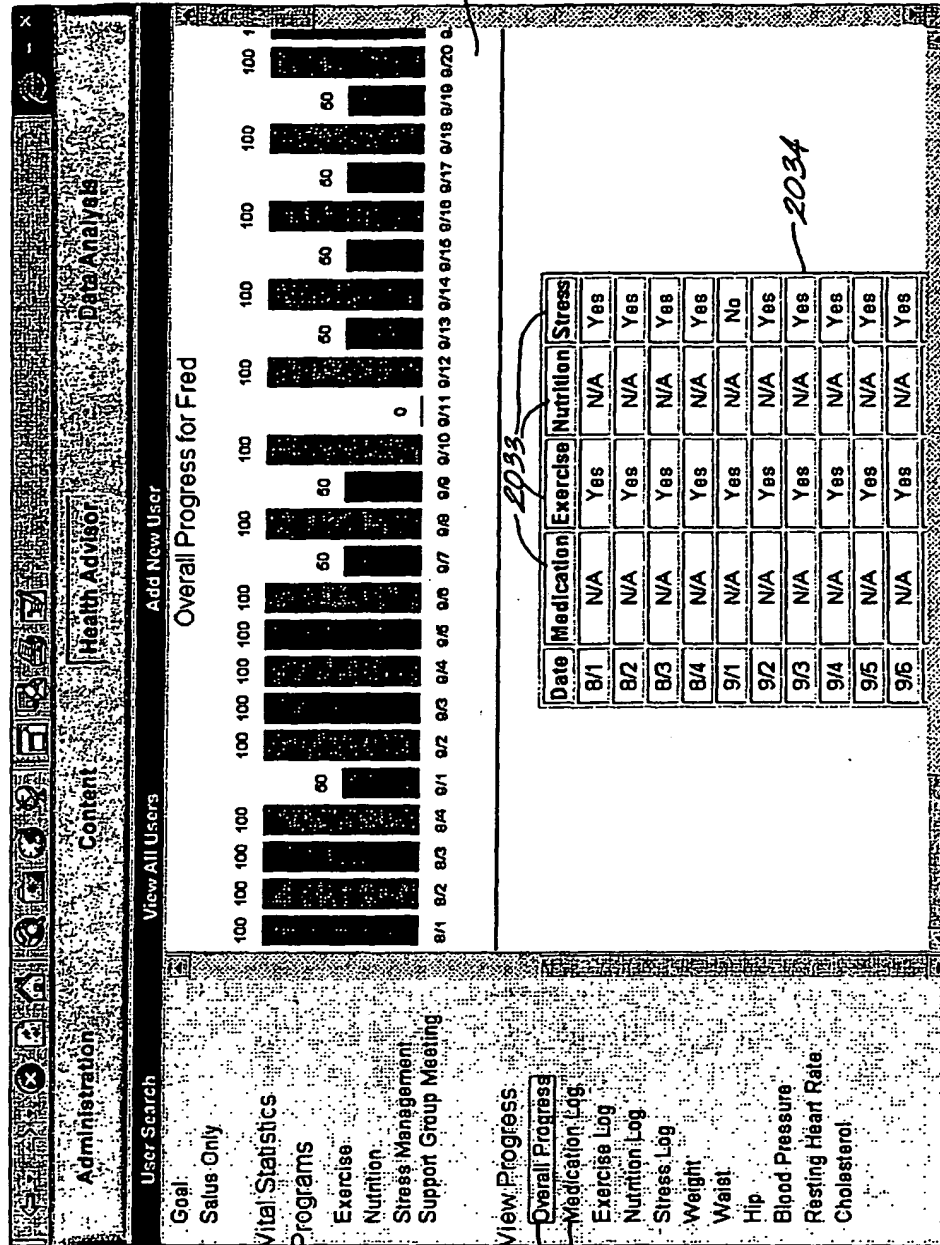
**Please Review and Confirm**

Start date 02/04/99  
 Goal Weight Control  
 Calories 2042  
 Total Fat 30% of calories or less  
 68 grams from fat  
 Saturated Fat 10% of calories  
 22.69 grams from saturated fat  
 Cholesterol Less than 300 mg.  
 Sodium 2400 mg.  
 Fiber 20 - 35 grams

**Modify** **Finish**

SUBSTITUTE SHEET (RULE26)

Fig. 9



SUBSTITUTE SHEET (RULE26)

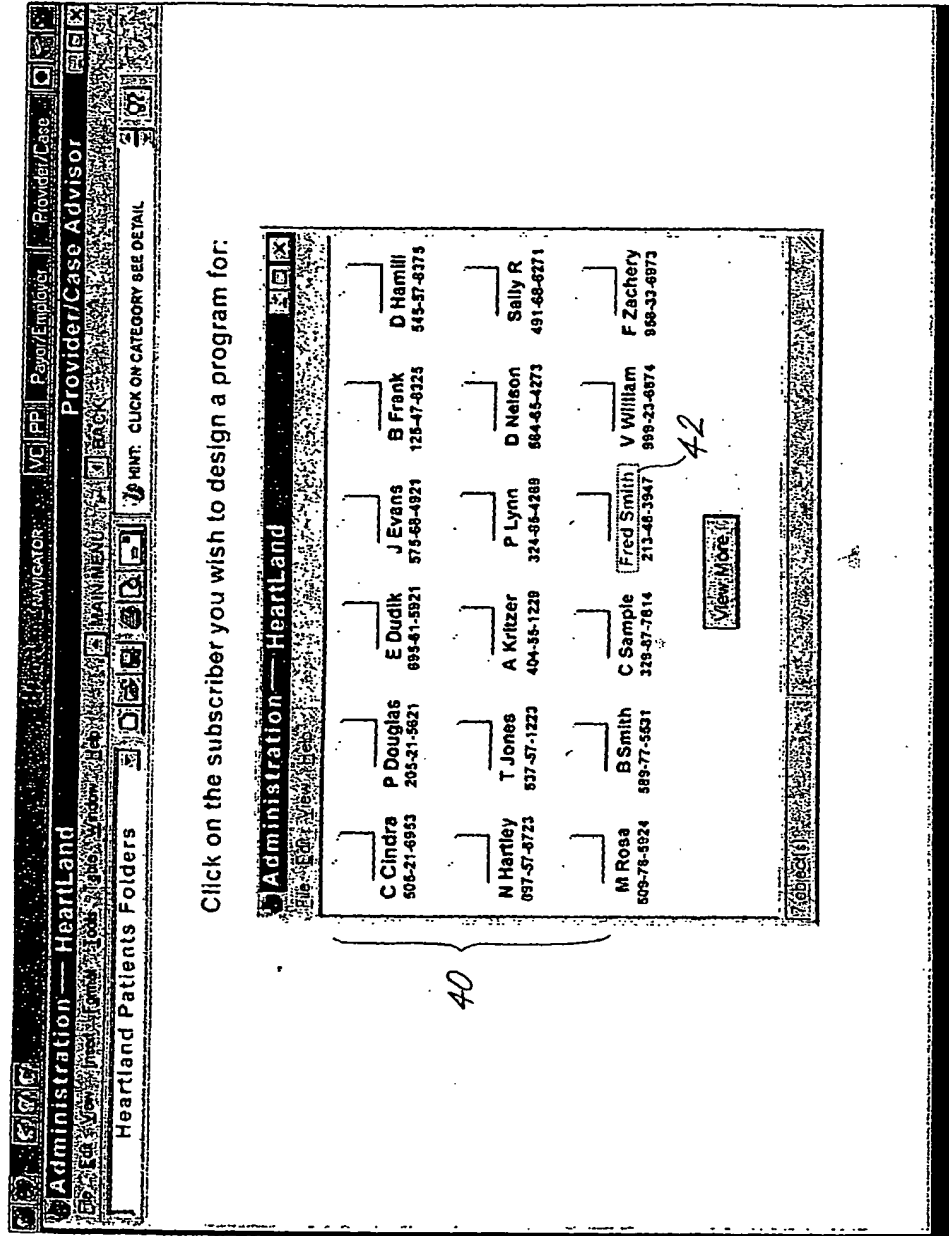


Fig. 10



Administration — HeartLand

HeartLand Health Assessment Review

NAVIGATOR

MAIN MENU

BACK

Provider/Case Advisor

Provider/Case

Provider/Case

44 46 SCREEN 1 OF 3 48

HINT: CLICK ON CATEGORY SEE DETAIL

PATIENT STATUS & GOALS: DETAILS		How 2/10/98	1 month Goal	GOALS
Name / D.O.B.	Fred Smith 23-49			
Starting Date	2/1/98			
Heartland I.D.	23-842			
Height / Sex	6'8" Male			
Weight	183			
BMI	28.28			
Smoke	5 Packs/Day			
Physical Activity	0/0/0 minutes / x-week / RPE			
Alcohol	2 Average Drinks per Day			
Eating Habits	40 %Fiber/Complex Carb Intake			
	40 %Fatty Food Intake			
	40 %Fatty Dairy Intake			
Calories	3,600			
Fat Calories & %	45%			
Cholesterol - LDL	142			
Cholesterol - HDL	35			
Cholesterol	246 mg/dl			
Resting Pulse Rate	88 Beats Per Minute			
Stress	8.8 Scale of 1 to 10 (10 being high stress)			
Depression	Scale of 1 to 10 (10 being greatest)			
Blood Pressure	140/100 systolic/diastolic			
Seatbelt Use	30 percent of time			
Back Pain	Incidents per month			
Pharmaceuticals				
- aspirin	325 mg			
- hydrochlorothzid.	12.5 mg			
- Lovastatin	20 mg			

EDIT

DESIGN

*Fig. 11*

SUBSTITUTE SHEET (RULE26)

**SUBSTITUTE SHEET (RULE26)**

Administration - HeartLand

HeartLand Health Assessment Review

Provider/Case Advisor

SCREEN 3 OF 3

Based on your input, here is HeartLand's recommended program for: Fred Smith

Use the buttons to confirm or edit this program. 61

CONFIRM 63

EDIT 64

OPTIONS

GOALS

PATIENT STATUS & GOALS: DETAILS		Now 2/10/98	1 month Goal	GOALS
Name / D.O.B.	Fred Smith 2-3-49			
Starting Date	2/1/98			
Heartland I.D.	23-842			
Height / Sex	5'9" Male			
Weight	183			
BMI	28.28	182	175	170
Smoke	5 Packs/Day	28.28	25.64	25.00
Physical Activity	0/10/0 minutes / x-week / RPE	20/3/3	25/5/4	4/5/8
Alcohol	2 Average Drinks per Day	2	1	1
Eating Habits	40 %Fiber/Compl Carb Intake	60	70	80
	40 %Fatty Food Intake	20	20	15
	40 %Fatty Dairy Intake	20	10	5
Calories	3,600	3,300	3,100	2,800
Fat Calories & %	45%	45%	20%	15%
Cholesterol - LDL	142	140 mg/dl	125 mg/dl	100 mg/dl
Cholesterol - HDL	35	37 mg/dl	39 mg/dl	45 mg/dl
Cholesterol	248	225	210	190
Resting Pulse Rate	68	68	65	79
Stress	8.5 Scale of 1 to 10 (10 being high stress)	7.0	6.0	3.8
Depression	Scale of 1 to 10 (10 being greatest)	10	5	0
Blood Pressure	140/100 systolic/diastolic	140/100	130/90	130/80
Seatbelt Use	30 percent of time	60	75	100
Back Pain	Incidents per month	3	2	0
Pharmaceuticals				
- aspirin	325 mg	325 mg/ds	325 mg/ds	325 mg/ds
- hydrochlorothzid.	12.5 mg	12.5 mg/ds	12.5 mg/ds	0 mg/ds
- Lovastatin	20 mg	20 mg/ds	20 mg/ds	0 mg/ds

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SUBSTITUTE SHEET (RULE26)

22- **HeartLand Prescription Form**

23, 23

Patient Name	Patient ID	Date	Physician Name	Physician ID

1. Fill in diagnosis:

Patient Diagnosis	Co-morbid Diagnosis

2. Circle a diagnostic category:

24-

Category	Diagnosis	Level 1 (mos.)	Level 2 (mos.)	Level 3 (mos.)	Health and Wellness
I	Current year MI survivor	3	3	6	Contin.>12th month
II	Current year alt. to PTCA or CABG	3	3	6	Contin.>12th month
III	Current year diagnosed CAD	3	3	6	Contin.>12th month
IV	All diagnosed Angina	3	3	6	Contin.>12th month
V	Prior years' post MI/surgical—High Risk	3	3	6	Contin.>12th month
VI	Prior years' post MI/surgical—Low Risk	1	1	10	Contin.>12th month
VII	2 or more Risk factors	0	2	4	Contin.>6th month
VIII	Health and Wellness	0	0	0	Continuous

30- 3. Please circle as appropriate:

Does the patient need smoking cessation? Yes No

Have you prescribed nicotine patch or gum? Yes No

Does the patient need weight reduction? Yes No If yes, target weight: \_\_\_\_\_

32- 4. What are patient's current and prescribed medications?

Medication	Standard Dosage	Comments/Changes
HCTZ	25 mg	
Atenolol	50 mg	
Lisinopril	20 mg	
Atorvastatin	20 mg	
Lovastatin	20 mg	
Antioxidant: Vitamin E	400 IU	
Antioxidant: Vitamin C	500 mg	
Other:		
Other:		
Other:		
Other:		

34- 5. Circle or fill in desired 3-month targets:

	1200	1500	2000	2500	3000
Daily calories					
Sat Fat Grams	<15	15	18	20	25
Pct Fat Cal	10%	15%	20%	25%	30%
Exercise (Freq/wk/RPE)	20/5x/3	30/5x/4	45/5x/5	50/5x/6	60/5x/7
Max Heart Rate					
Stress Reduction Needs	Low Need	Some	Definite	High	Very High
Lipid Level Target					
Total Cholesterol	140	150	175	200	<225
LDL	60	70	80	<100	<125
HDL	35	37	39	41	>42

Physician's Signature: \_\_\_\_\_ Telephone: \_\_\_\_\_

FAX THIS FORM TO SALUS MEDIA: (805) 969-3601

You will receive Fax confirmation within 24 Hours. For Assistance please call: (805) 969-2234

*Fig. 1A*

**SUBSTITUTE SHEET (RULE26)**

707

### HeartLand Patient Progress Report

Date: April 2, 1997

Dear Doctor Cavallo:

This is a status report on your patient, Fred Smith, SSN: 565-76-2334, Plan No. 011-066754

Your diagnosis was: non-complicated anterior MI and co-morbid diagnosis none.

Patient entered the HeartLand program on March 12, 1997. He/she has been on the program 3 weeks.

Progress toward goals:

Parameter	Current Status	Suggested Next steps	Target
Blood Pressure	146/92	144/90	140/90
Weight	172	170	170
Resting Pulse	67	65	65
Exercise Program	35 min/4x-wk/4 RPE	45 min/4x-wk/5 RPE	45 min/6x-wk/6 RPE
Total Cholesterol	210 mg/dl	200 mg/dl	190 mg/dl
LDL Cholesterol	125mg/dl	115mg/dl	100mg/dl
HDL Cholesterol	39mg/dl	42mg/dl	45mg/dl
Diet: Cal/day	3100	3000	2800
Sat Fat grams/day	20 g	15 g	10 g
Smoking Status	0 was: 5 pack/day	0	0
Aspirin	325 mg - missed 1/wk	325 mg - missed 0/wk	325 mg - missed 0/wk
BCTZ	12.5 mg. - missed 0/wk	1205 mg. - missed 0/wk	12.5 mg. - missed 0/wk
Lovastatin	20 mg. - missed 0/wk.	20 mg. - missed 0/wk.	20 mg. - missed 0/wk.
Other			
Other			
Other			

Please initial here to indicate you have reviewed this Status Report: \_\_\_\_\_

Please initial here to indicate you agree with suggested next step targets: \_\_\_\_\_

Indicate any changes desired in Next Step Goals and Medications: \_\_\_\_\_

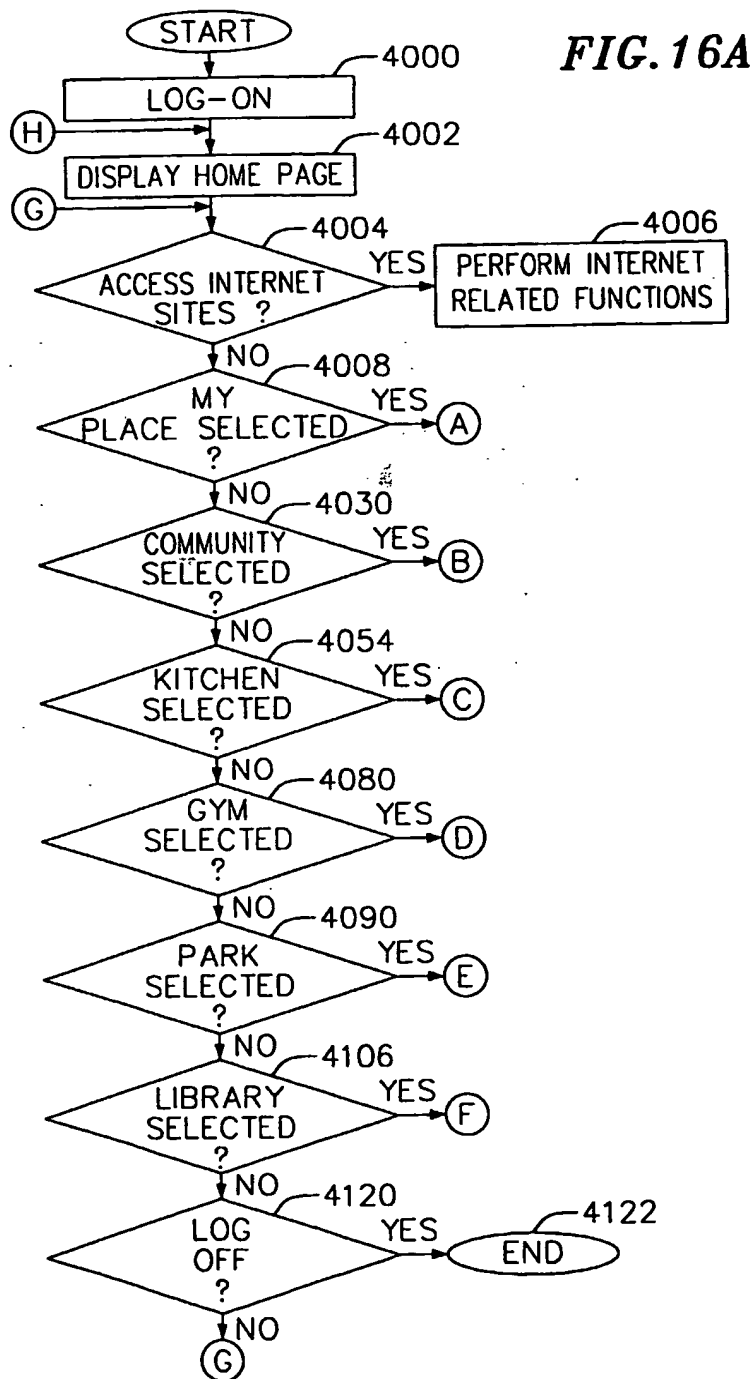
Physician's Signature: \_\_\_\_\_

Thank you,

Mary Quinn  
HeartLand Case AdvisorFAX THIS FORM TO SALUS MEDIA: FAX NO. (805) 969-3601  
You will receive Fax confirmation within 24 Hours. For Assistance please call (805) 969-2234

Fig. 15

SUBSTITUTE SHEET (RULE26)



SUBSTITUTE SHEET (RULE26)

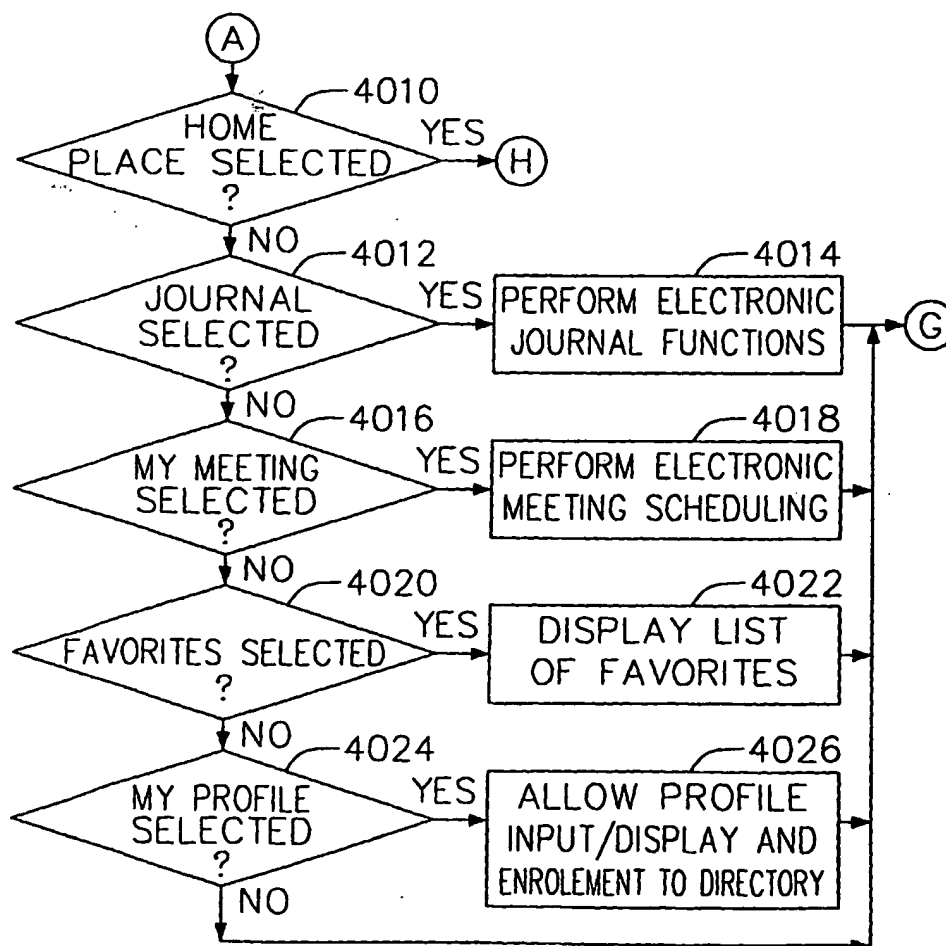
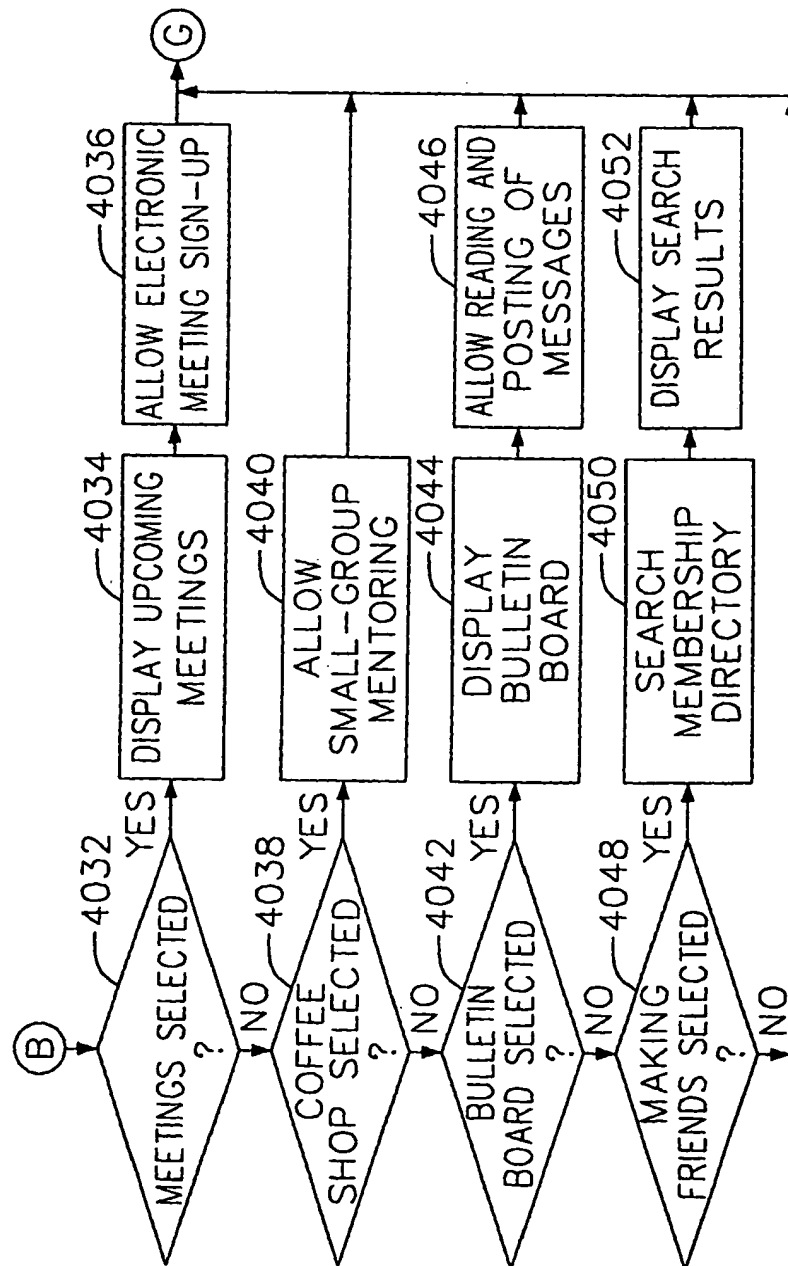
**FIG. 16B****SUBSTITUTE SHEET (RULE26)**

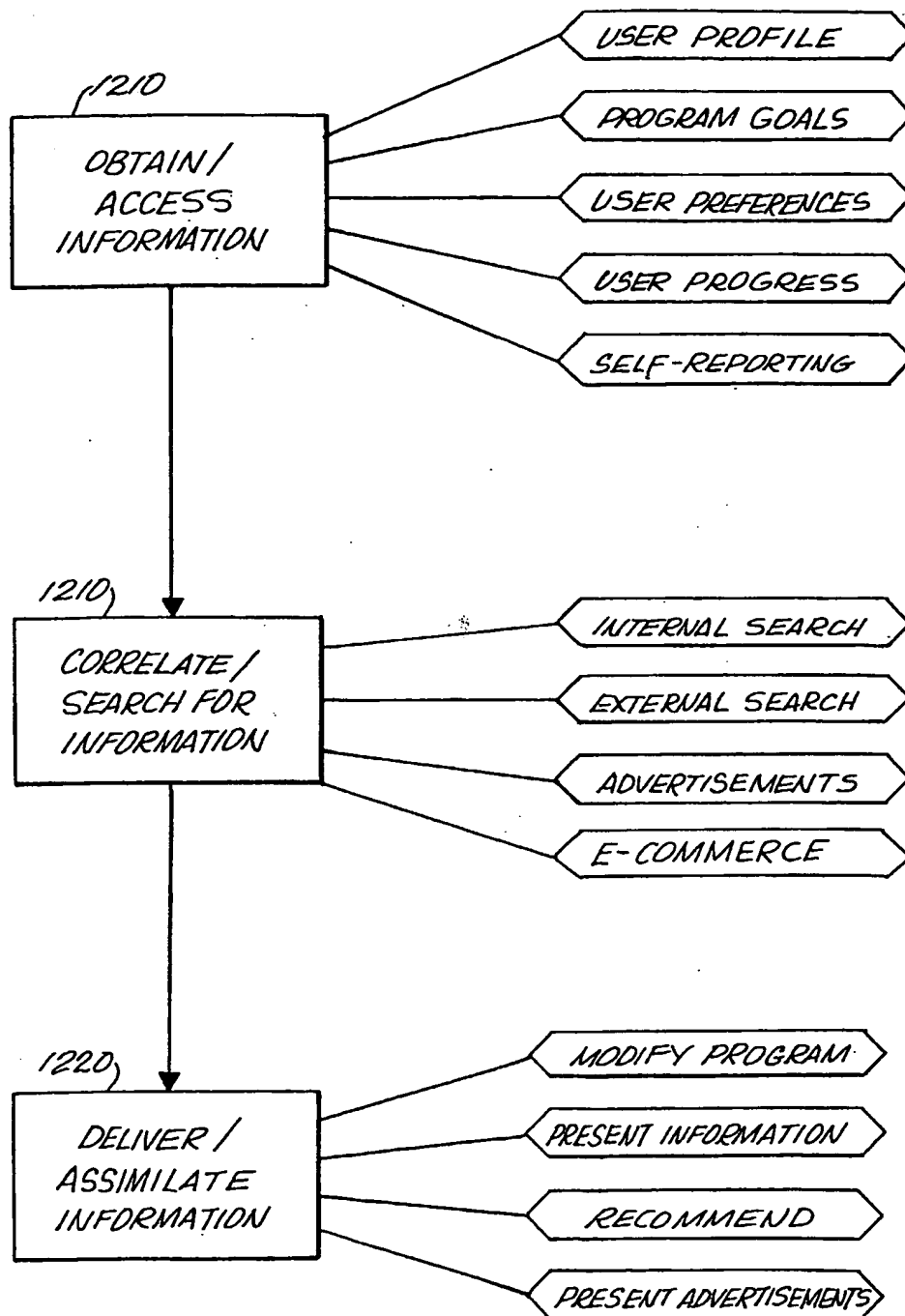
FIG. 16C





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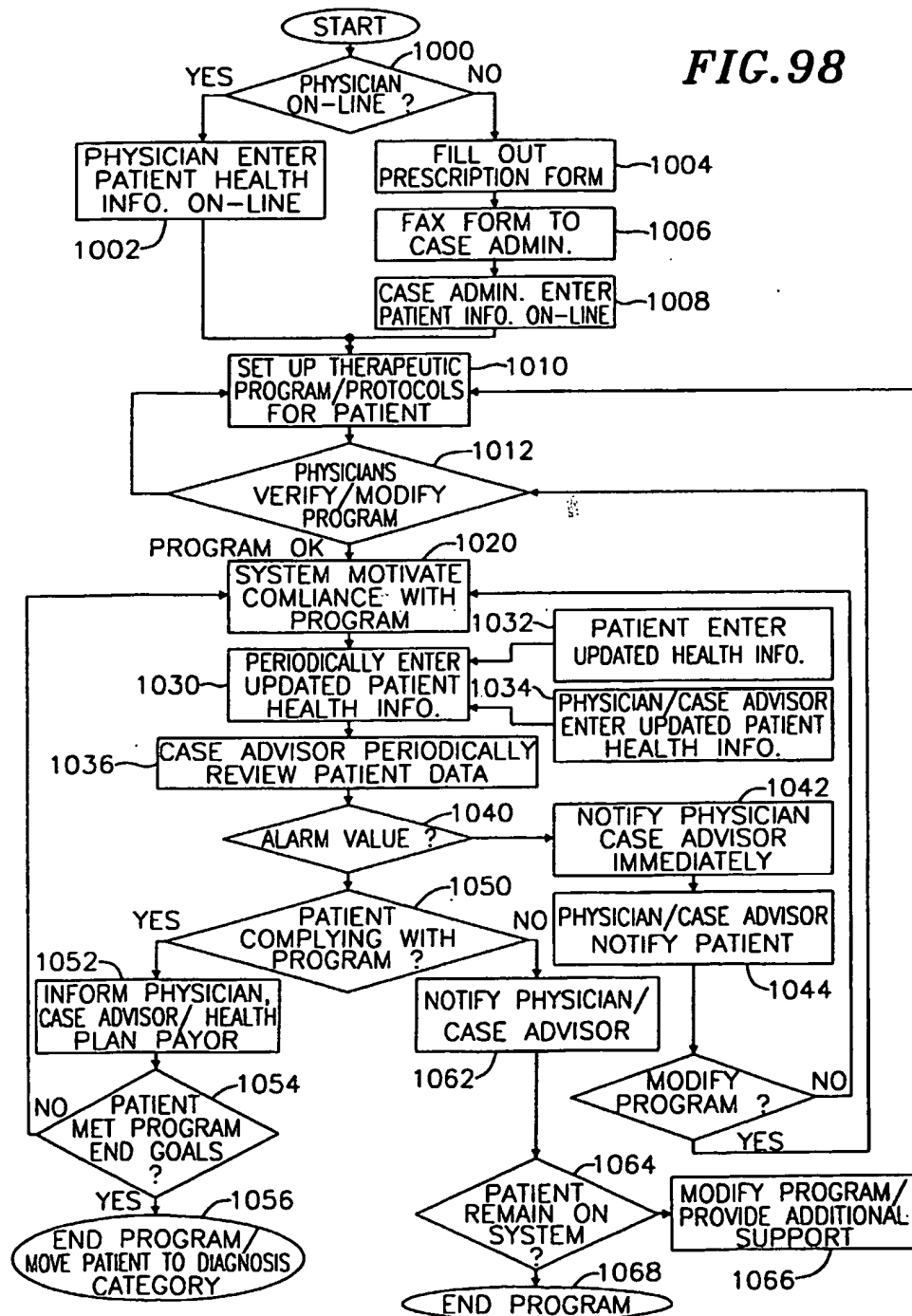
105/105

*Fig. 99*

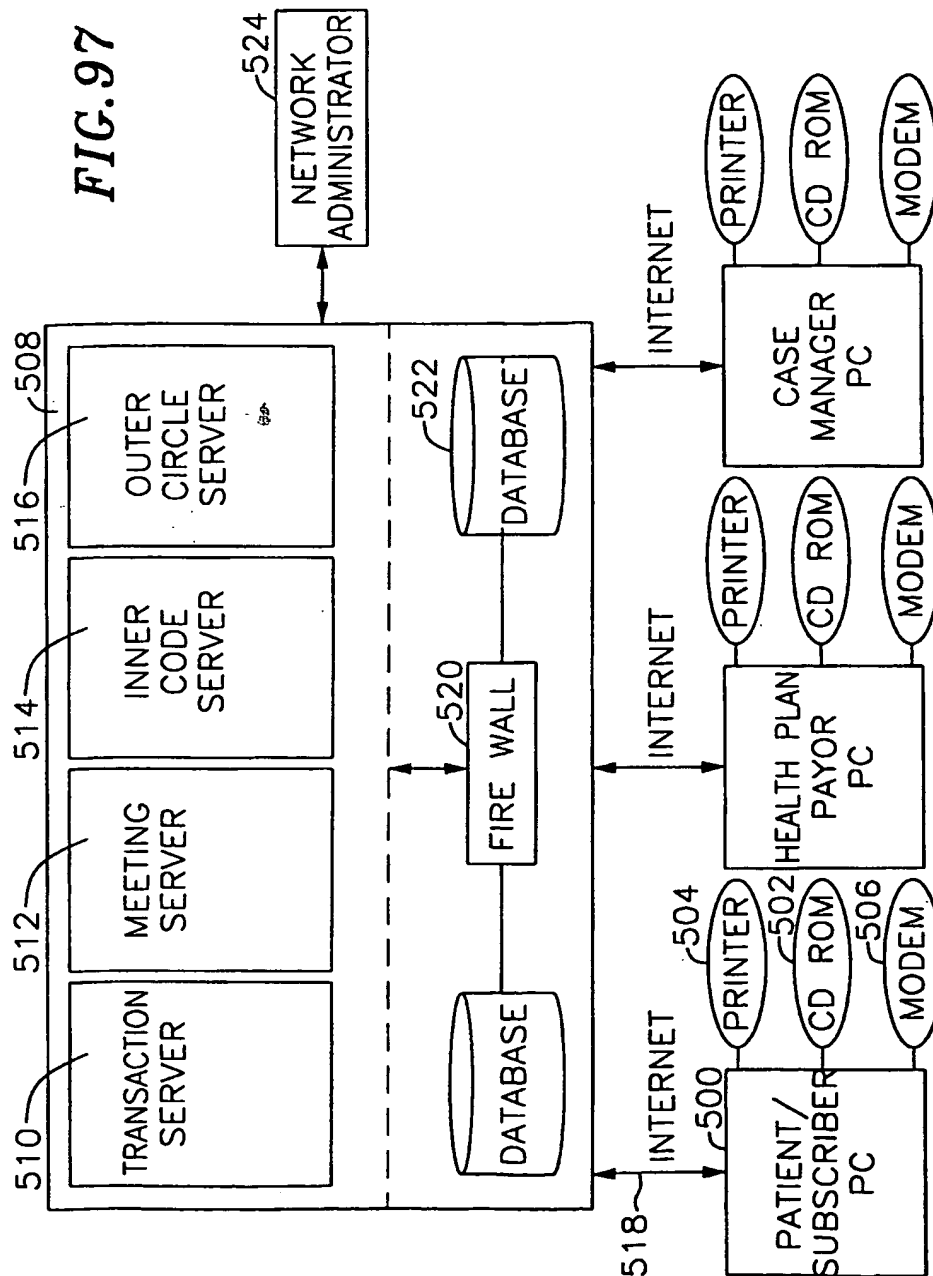
SUBSTITUTE SHEET (RULE26)

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FIG. 98



SUBSTITUTE SHEET (RULE26)



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Administration — HeartLand

HeartLand Case Advisory System

NAVIGATOR VC/PP Payor/Employer Provider/Case

HealthPlan Payor/Employer

HINT: CLICK ON CATEGORY SEE DETAIL

### HeartLand Communications Center

Send Messages to

☒ Heartland ☐ Subscriber *150*

☒ Responsible Physician *152*

☐ Other

Select Type of Message

☒ Audio Mail *150*

☒ Text Email *155*

☐ Fax *100*

Type Text Message here:

Record Message here

SEND MESSAGE

*Fig. 96*

SUBSTITUTE SHEET (RULE26)

Fig. 95

<b>Administration — HeartLand</b>		<b>HealthPlan Payor/Employer</b>		
HeartLand Utilization Review		HINT: CLICK ON CATEGORY SEE DETAIL		
		YTD norm is 37.3%		
Physician	PNO	Specialty	YTD PNO	Percent Variance
Moeller, J	66537	Cardio	30	-2.2%
King, S	29873	Cardio	38	+1.4%
Carvell, C	89721	Primary	18	-4.3%
Richards, B	52983	Primary	42	+1.4%

**SUBSTITUTE SHEET (RULE26)**

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Fig. 94

440

Utilization Review Target: 23%

430 432 434 436 438

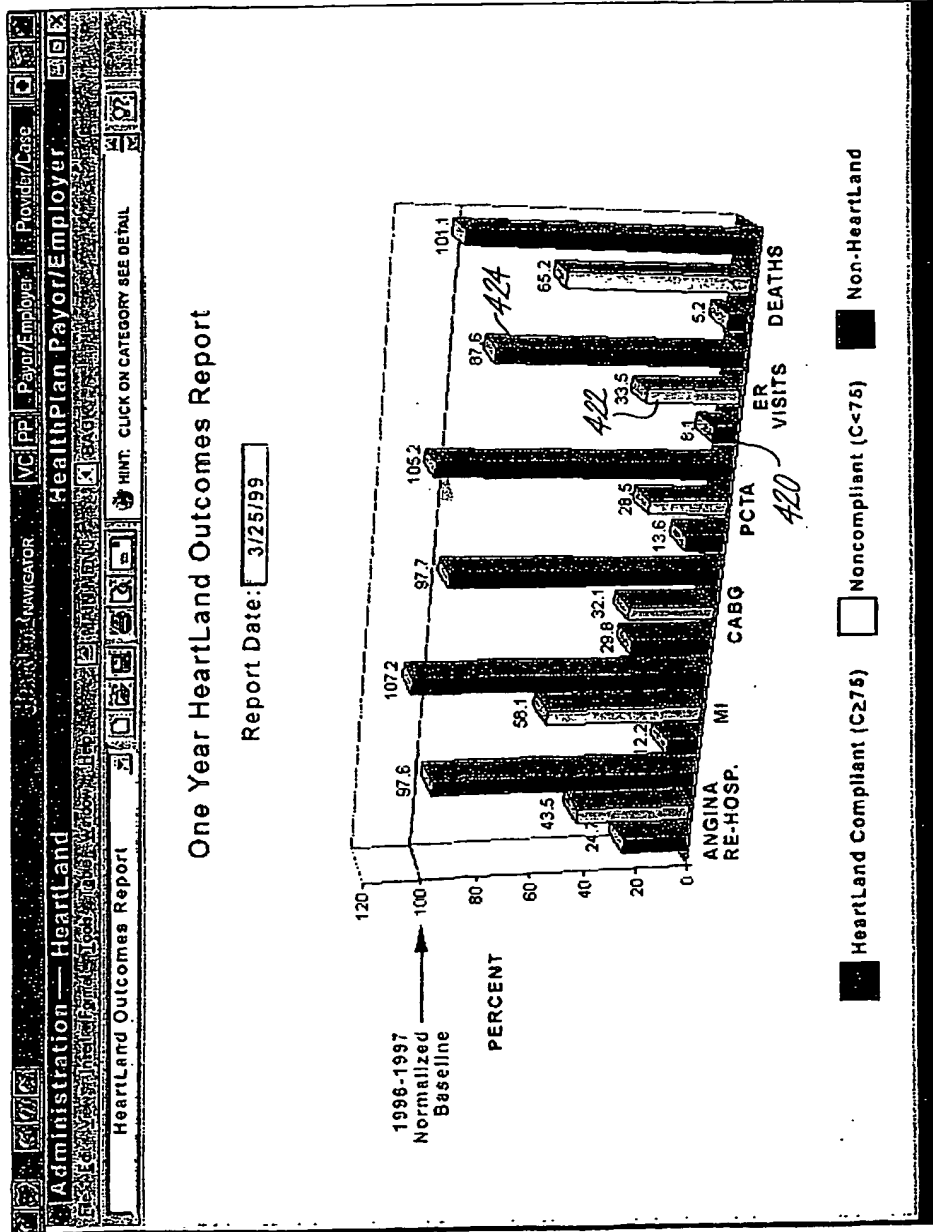
Group or Facility	ICD-9	Specialty	ICD-9	Percent referred to Heartland	Percent referred to Heartland
Central Valley IPA	8224	Primary	28	22.90%	-0.10%
Baywatch Phys & Sur	9732	Cardio	127	16.70%	-6.30%
Fulton Cty. Cardiolog.	6376	Cardio	88	24.50%	1.50%
Care Frdn of Clovis	8479	Primary	52	23.50%	0.50%
Riverside Primary Care	6745	Primary	77	18.80%	-4.20%

442

**SUBSTITUTE SHEET (RULE26)**

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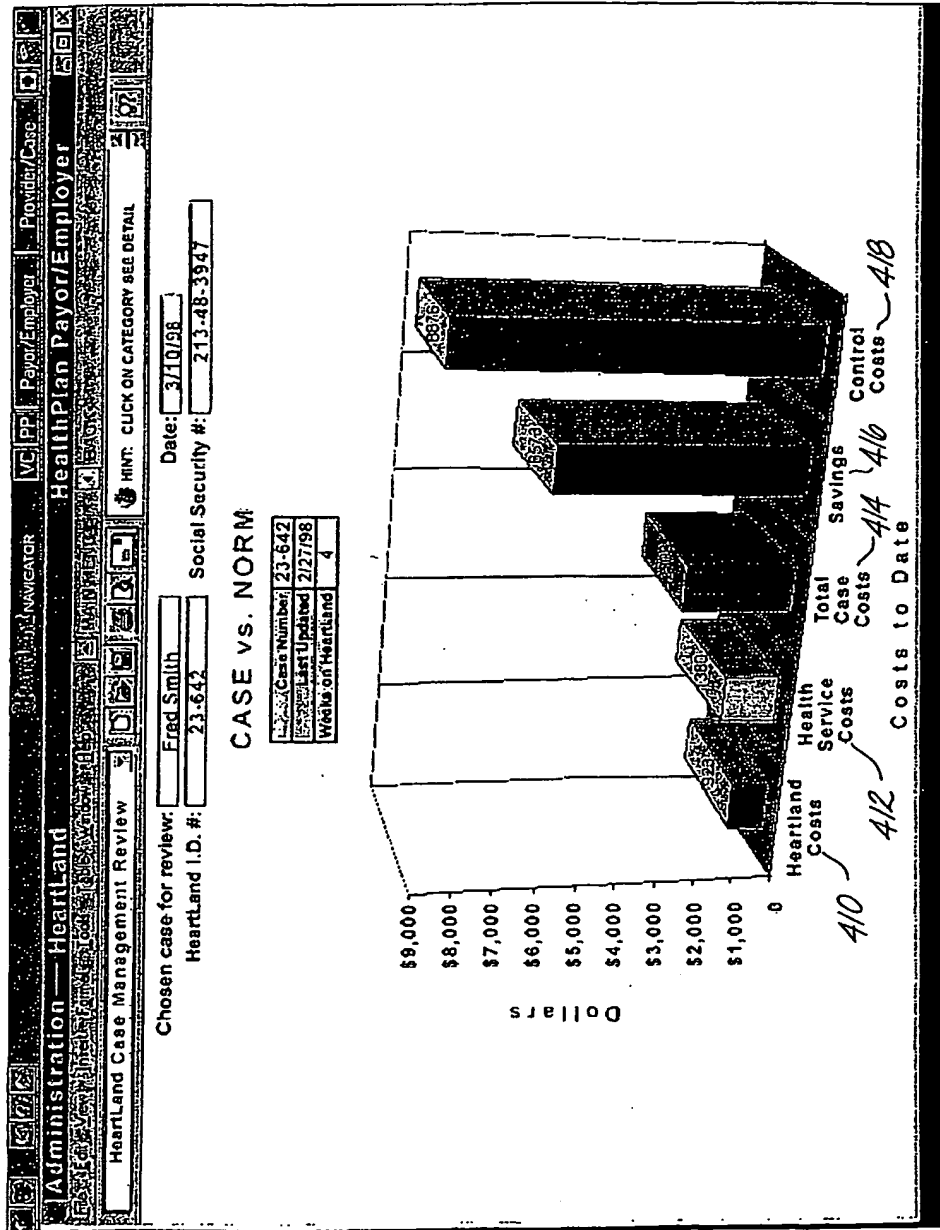
Fig. 93



SUBSTITUTE SHEET (RULE26)



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SUBSTITUTE SHEET (RULE26)

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Administration — HeartLand
VC PP Payor/Employer Provider/Case

HeartLand Case Management Review
NAVIGATOR

Chosen case for review: Fred Smith

Heartland I.D. #: 23-642

Subscriber since: 1/20/98

Date: 3/10/98

Social Security #: 213-48-3947

Total weeks on Heartland program: 4

HINT: CLICK ON CATEGORY SEE DETAIL

**Fred Smith: 48 years, anterior M.I. 1/6/98 Risk Factors: Hypertension, smoker, lack of exercise, elevated LDL cholesterol**

	BASELINE (1/20/98)	2/10/98	2/17/98	2/24/98	3/2/98	3/9/98	GOALS
HBP (160/98 mmHG)	168/96	166/92	148/90	148/90	148/90	148/92	B.P. < 140/90 mmHG
Cigarettes/day (20)	15	10	0	0	0	0	Complete Smoking Cessation
Physical Activity minutes/week/RPE	0/0/0	20/3/3	30/4/3	35/4/3.5	35/4/4	35/4/4	45 mins walking 17 days week 16
Resting H.R. 88	79	68	69	67	67	67	WEIGHT: 170 BMI: 25.00
Weight baseline (160 lbs.)	178 lbs.	178 lbs.	176 lbs.	176 lbs.	172 lbs.	172 lbs.	3.5 (10=MAX)
Stress level (8)	7.0	7.2	6.9	6.1	6.9	6.9	Compliant use of Medications
Aspirin 325 mg/day (missed dose/wk)	1	2	1	1	1	1	
Hydrochlorothiazide 12.5 mg. daily (missed dose/wk)	1	1	0	0	0	0	
Loxestatin 20 mg/day (missed dose/wk)	1	1	0	0	0	0	
Calories avg / day	3,800		3,300			3,100	2,800 cal / day
Fat Calories %	45%		45%			20%	15% fat calories
Cholesterol - LDL	142 mg/dl		140 mg/dl			125 mg/dl	100 mg/dl
Cholesterol - HDL	36 mg/dl		37 mg/dl			39 mg/dl	45 mg/dl
Cholesterol	236		225			210	189

Fig. 91

SUBSTITUTE SHEET (RULE26)

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Administration - HeartLand

HealthPlan Payor/Employer

Provider/Case

HeartLand Case Review

HINT: CLICK ON CATEGORY SEE DETAIL

PATIENT INFORMATION VIEW

☒ HAS

☐ HAS NOT

CONFIDENTIAL

*Fig. 90*

SUBSTITUTE SHEET (RULE26)

95/105

Administration — Heartland HealthPlan Payor/Employer

Heartland Comparative Cost Review

HINT: CLICK ON CATEGORY SEE DETAIL

Report Date: July 31, 1998

Time Period: Last 12 months

380 382 384

Category	Description	Number on Program	Heartland Group Medical Costs	Heartland Program Costs	TOTAL HEARTLAND COSTS	Control Group Medical Costs	Heartland Savings
Category I	Current-Year MI Survivors	106	253,366	181,860	435,015	589,221	154,208
Category II	Current-Year Bypass & Angioplasty	78	140,678	122,360	263,038	327,153	64,117
Category III	Current-Year Diagnosed CAD, Surgery Rec	77	240,702	133,210	373,912	659,772	185,860
Category IV	All Diagnosed Angina	708	1,139,172	1,047,840	2,187,012	2,849,237	482,225
Category V	Prior-Years MI & Post-Surgical - High Risk	680	1,840,840	1,006,400	2,847,240	3,815,907	1,168,667
Category VI	Prior-Years MI & Post-Surgical - Low Risk	227	420,177	187,490	607,667	977,168	359,489
Category VII	(2 or more factors)	3,191	2,003,948	717,975	2,721,923	4,880,344	1,938,421
Category VIII	Wellness Program	7,920	2,304,720	.	2,304,720	5,359,814	3,055,094
<b>TOTALS</b>		12,984	8,143,800	3,406,926	11,550,726	18,938,605	7,388,080

*Fig. 89*

SUBSTITUTE SHEET (RULE26)

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Administration — HeartLand  
HeartLand Compliance Status

NAVIGATOR: VC PP Payor/Employer Provider/Case  
HealthPlan Payor/Employer

HeartLand Compliance Status

HINT: CLICK ON CATEGORY SEE DETAIL

Report Date: July 31, 1998

Time Period: Last 12 months

360 } 364 } 366 } 368 } 370 } 372 }

Category	Description	Total Eligible	Participating		Compliant		Probation		Terminated	
			No. eligible	Pct. eligible	No.	Pct.	No.	Pct.	No.	Pct.
Category I	Current-Year MI Survivors	1,009	105	10.4%	87	82.9%	13	12.4%	5	4.8%
Category II	Current-Year Bypass & Angioplasty	733	76	10.4%	68	77.6%	10	13.2%	7	9.2%
Category III	Current-Year Diagnosed CAD, Surgery Rec	740	71	9.6%	63	88.7%	5	7.0%	3	4.2%
Category IV	All Diagnosed Angina	6,726	708	10.5%	563	78.1%	84	11.9%	71	10.0%
Category V	Prior-Years' MI & Post-Surgical - High Risk	2,183	680	31.1%	585	86.0%	38	5.6%	57	8.4%
Category VI	Prior-Years' MI & Post-Surgical - Low Risk	6,647	227	3.5%	187	82.4%	22	9.7%	18	7.9%
Category VII	(2 or more factors)	75,826	3,191	4.2%	2,765	86.6%	148	4.6%	278	8.7%
Category VIII	Wellness Program	126,714	7,920	6.3%	6,287	79.1%	1,359	17.2%	294	3.7%
Grand Totals & Percent Averages			12,978		10,586	81.4%	1,679	12.9%	733	5.6%

Fig. 88

SUBSTITUTE SHEET (RULE26)

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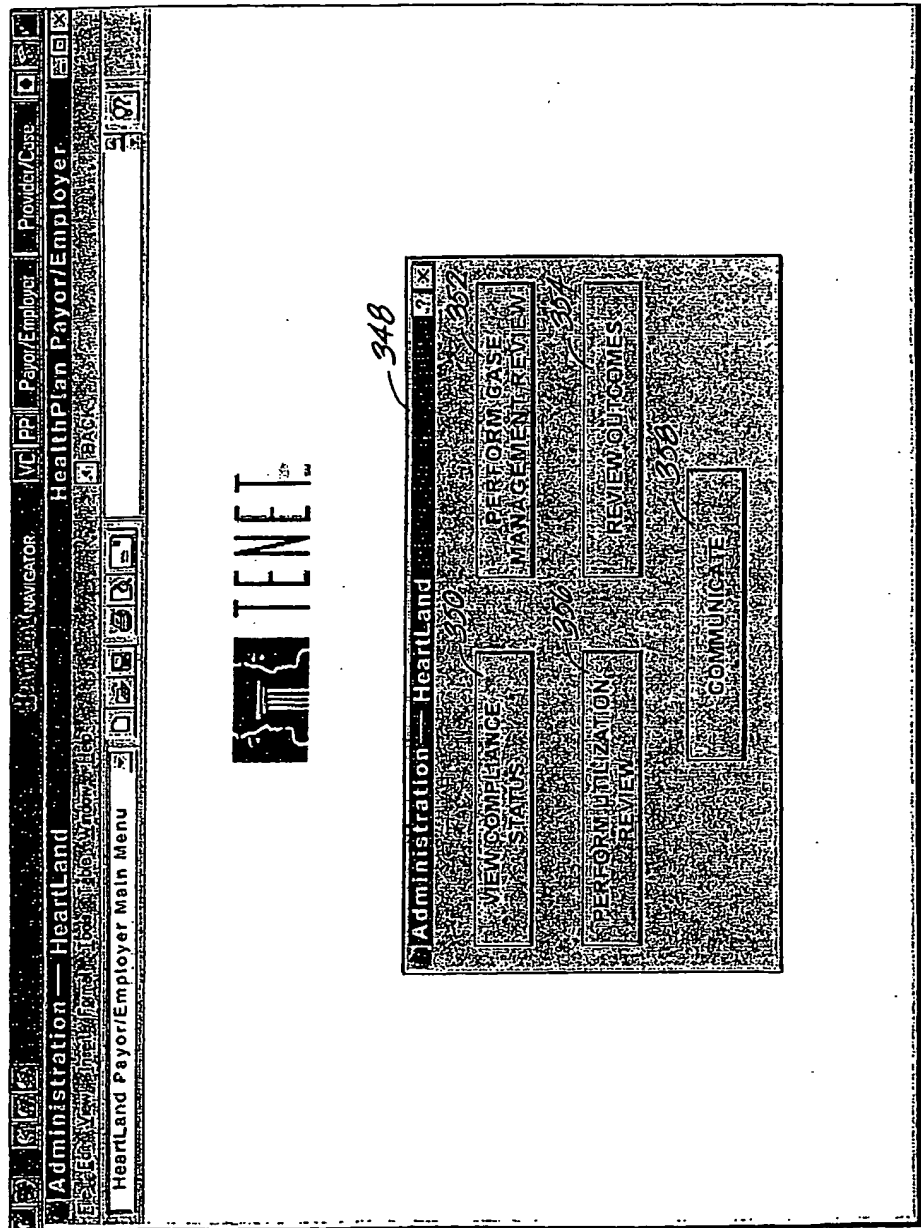


Fig. 87

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[illegible]

*Fig. 86*

**SUBSTITUTE SHEET (RULE26)**

Administration

Add Nutrition Program Levels

Modify Nutrition Program Level

Content

Health Advisor

Data Analysis

Library

Nutrition

Meeting

Level	Total Fat	Saturated Fat	Cholesterol	Sodium	Fiber
Level 1	30% <input type="checkbox"/> of calories or less	10% <input type="checkbox"/> of calories	Less than <input type="checkbox"/> mg	2400 mg	20 - 35 grams
Level 2	30% <input type="checkbox"/> of calories or less	7% <input type="checkbox"/> of calories	Less than <input type="checkbox"/> mg	2400 mg	20 - 35 grams
Level 3	25% <input type="checkbox"/> of calories or less	5% <input type="checkbox"/> of calories	Less than <input type="checkbox"/> mg	2400 mg	20 - 35 grams
Level 4	20% <input type="checkbox"/> of calories or less	4% <input type="checkbox"/> of calories	Less than <input type="checkbox"/> mg	2000 mg	20 - 35 grams
Level 5	10% <input type="checkbox"/> of calories or less	4% <input type="checkbox"/> of calories	Less than <input type="checkbox"/> mg	2000 mg	20 - 35 grams
Level 6	10% <input type="checkbox"/> of calories or less	4% <input type="checkbox"/> of calories	Less than <input type="checkbox"/> mg	2400 mg	20 - 35 grams

Submit

**SUBSTITUTE SHEET (RULE 26)**



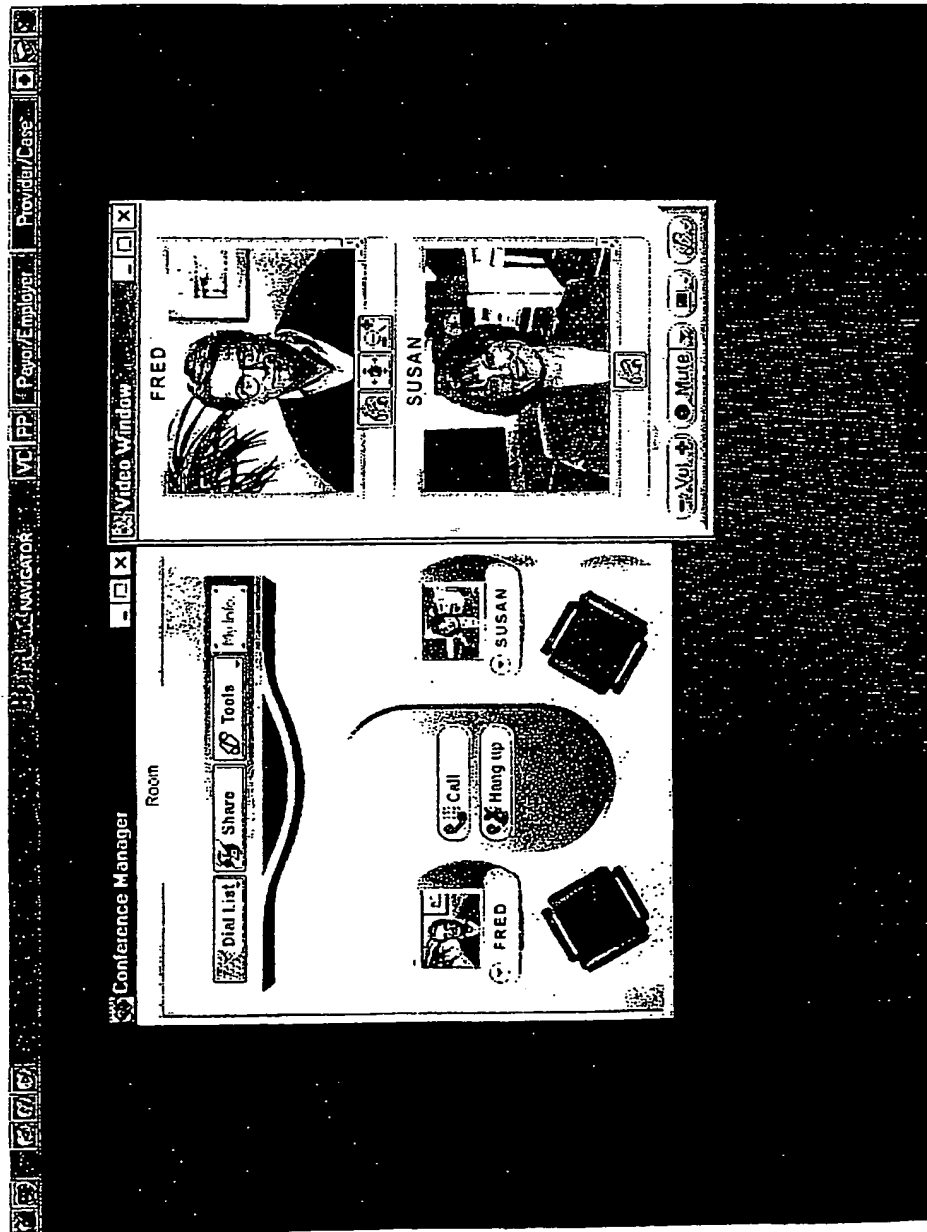
90/105

Fig. 8A

Administration		Content		Health Advisor		Data Analysis		Health Advisor	
Admin ID	Admin Name	Admin ID	Admin Name	Admin ID	Admin Name	Admin ID	Admin Name	Admin ID	Admin Name
Sarah	Sarah	Sarah	Sarah	Sarah	Sarah	Sarah	Sarah	Sarah	Sarah
sarahlin	sarahlin	sarahlin	sarahlin	sarahlin	sarahlin	sarahlin	sarahlin	sarahlin	sarahlin
nina	nina	nina	nina	nina	nina	nina	nina	nina	nina
hprever	hprever	hprever	hprever	hprever	hprever	hprever	hprever	hprever	hprever
z	z	z	z	z	z	z	z	z	z
robert	robert	robert	robert	robert	robert	robert	robert	robert	robert
admin1	admin1	admin1	admin1	admin1	admin1	admin1	admin1	admin1	admin1
admin2	admin2	admin2	admin2	admin2	admin2	admin2	admin2	admin2	admin2
health1	health1	health1	health1	health1	health1	health1	health1	health1	health1
health2	health2	health2	health2	health2	health2	health2	health2	health2	health2
content1	content1	content1	content1	content1	content1	content1	content1	content1	content1
content2	content2	content2	content2	content2	content2	content2	content2	content2	content2
Attila	Attila	Attila	Attila	Attila	Attila	Attila	Attila	Attila	Attila
eng	eng	eng	eng	eng	eng	eng	eng	eng	eng
alex	alex	alex	alex	alex	alex	alex	alex	alex	alex
189	189	189	189	189	189	189	189	189	189

SUBSTITUTE SHEET (RULE 26)

89/105



*Fig. 83*

SUBSTITUTE SHEET (RULE26)

348

Heartland Case Advisory System

Administration - Heartland

VC PPI Payor/Employer Provider/Case

Provider/Case Advisor

Heartland Case Advisory System

Heartland Communications Center

Send Messages to: Fred Smith

☒ Subscriber ☒ Auto Fill

☐ Responsible Physician

☐ Other

Select Type of Message:

☒ Audio E-Mail ☒ Resp. Physician

☐ Text E-Mail ☐ Subscriber

☐ FAX ☐ Other

☐ Bcc ☐ Other

Type Text Message here:

Record Message here:

1. INCREASE EXERCISE TO: 45 minutes

2. INCREASE RPE TO: Level 5

3. INDICATE TO PHYSICIAN BLOOD PRESSURE IN YELLOW ZONE AT: 148/92

4. CHOOSE REWARD FROM: Village Mall For 30 Smoke Free Days

5. Good support group attendance

6. OTHER: Diet Exercise Stress Support

Best Wishes,  
Susan, your case advisor

340

344

346

SUBSTITUTE SHEET (RULE26)

Fig. 82

Administration - Heartland

File Edit View Print Setup Tools Help Window Help

VC PP Payor/Employer Provider/Case

Provider/Case Advisor

MAIN MENU

HINT: CLICK ON CATEGORY SEE DETAIL

### Heartland Recommendations

HEARTLAND PATIENT: Fred Smith

PATIENT NUMBER: 23-642

DATE: 3/10/88

TOTAL AVERAGE DAILY CALORIES: 3,100

TOTAL DAILY CALORIES FROM FAT: 455 (15%)

INCREASE EXERCISE TO: 45 minutes

INCREASE RPE TO: Level 5

see the Village Gym for suggestions and preferences

INDICATE TO PHYSICIAN BLOOD PRESSURE IN YELLOW ZONE AT: 146/92

CHOOSE REWARD FROM: Village Mall

For 60 Smoke Free Days

Good support group attendance

322 {

324 {

326 {

328 {

330 {

332 {

334 {

OTHER:

Diet

Exercise

Stress

Support

Accepting

Editing

Communications

ATTEND GROUP SUPPORT SESSIONS: 4 times/week

CASE ADVISORY REVIEW: 4x/mo. 2x/mo. 1x/mo.

NEXT PHYSICIAN VISIT DUE: 5/25/97

45 minutes per sessions at least 5x/week

Remain cigarette free!

Remember to use your seatbelt!

Remember back and flexibility exercises!

Fig. 81

305

HeartLand Behavioral Change Assessment

306

308

310

300

302

304

HeartLand Behavioral Change Assessment

Provider/Case: Fred Smith

Behavioral Change Assessment

Behavioral Change Assessment	2/10/98	3/25/98	Goal
Behavioral Intention	2	3	4
Self Efficacy	3	3	4
Social Support	2	3	4
TOTAL	7	9	12

NOTE: Client Assessment Scored as follows:

Behavioral Intention

1 No intention to change

2 Considering change

3 Committed to change

4 Strongly committed to change

Self-Efficacy

1 No confidence in ability to change

2 Little confidence in ability to change

3 Confidence in ability to change

4 Certain of ability to change

Social Support

1 Co-workers, friends and family sabotage efforts to change

2 Co-workers, friends and family are apathetic to change

3 Co-workers, friends and family are helpful and co-operative

4 Co-workers, friends and family are willing to change also

Fig. 80

SUBSTITUTE SHEET (RULE26)

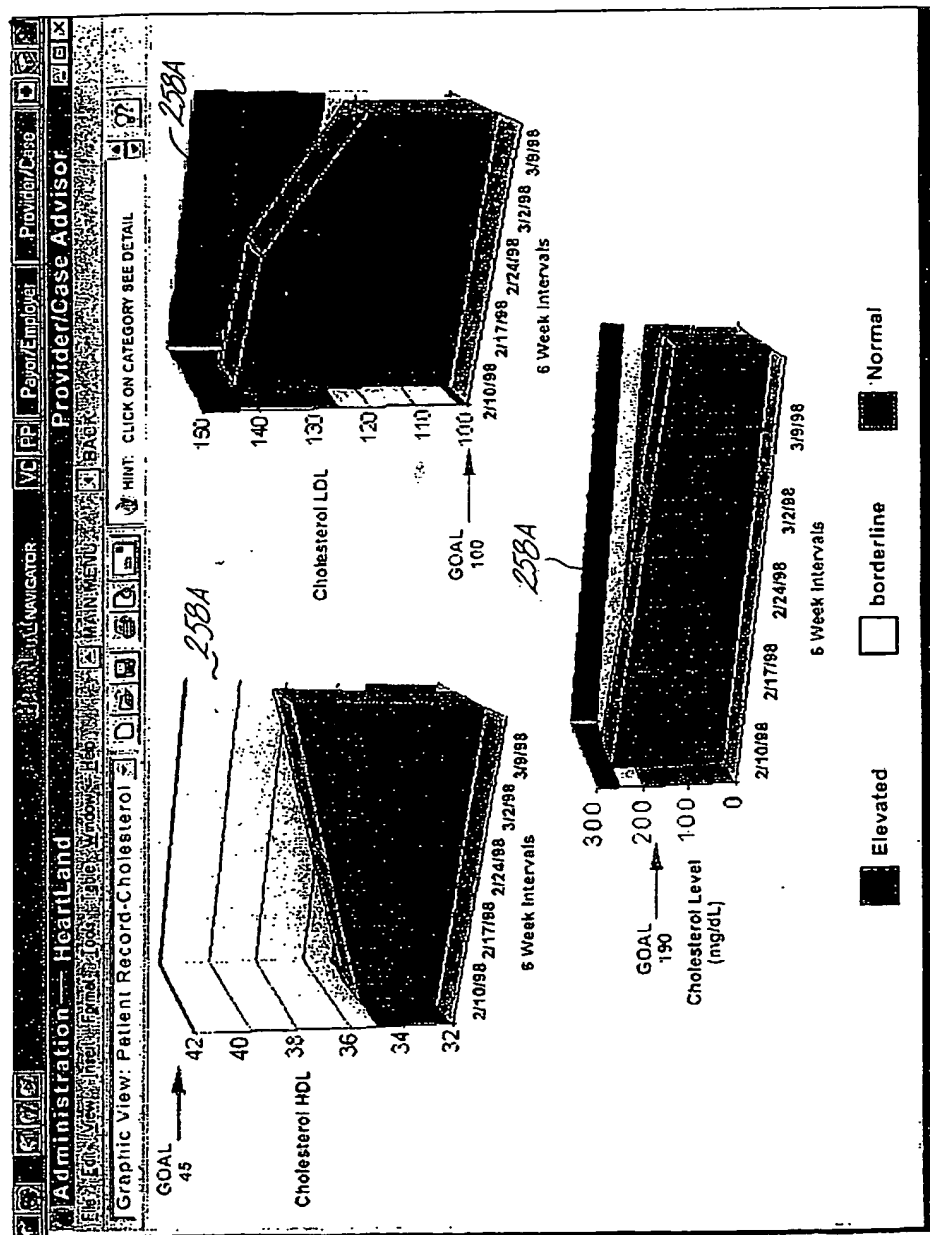


Fig. 79

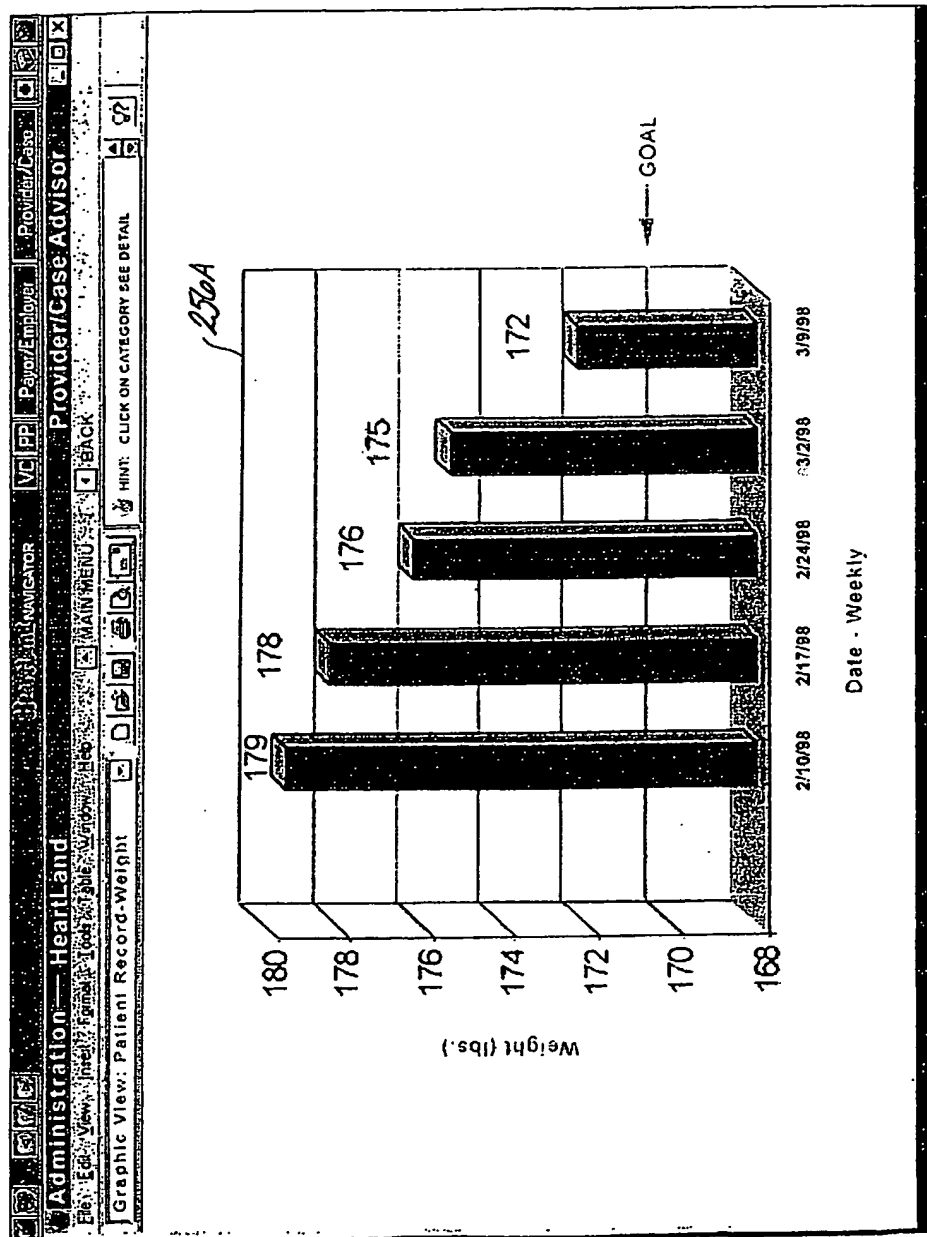


Fig. 78

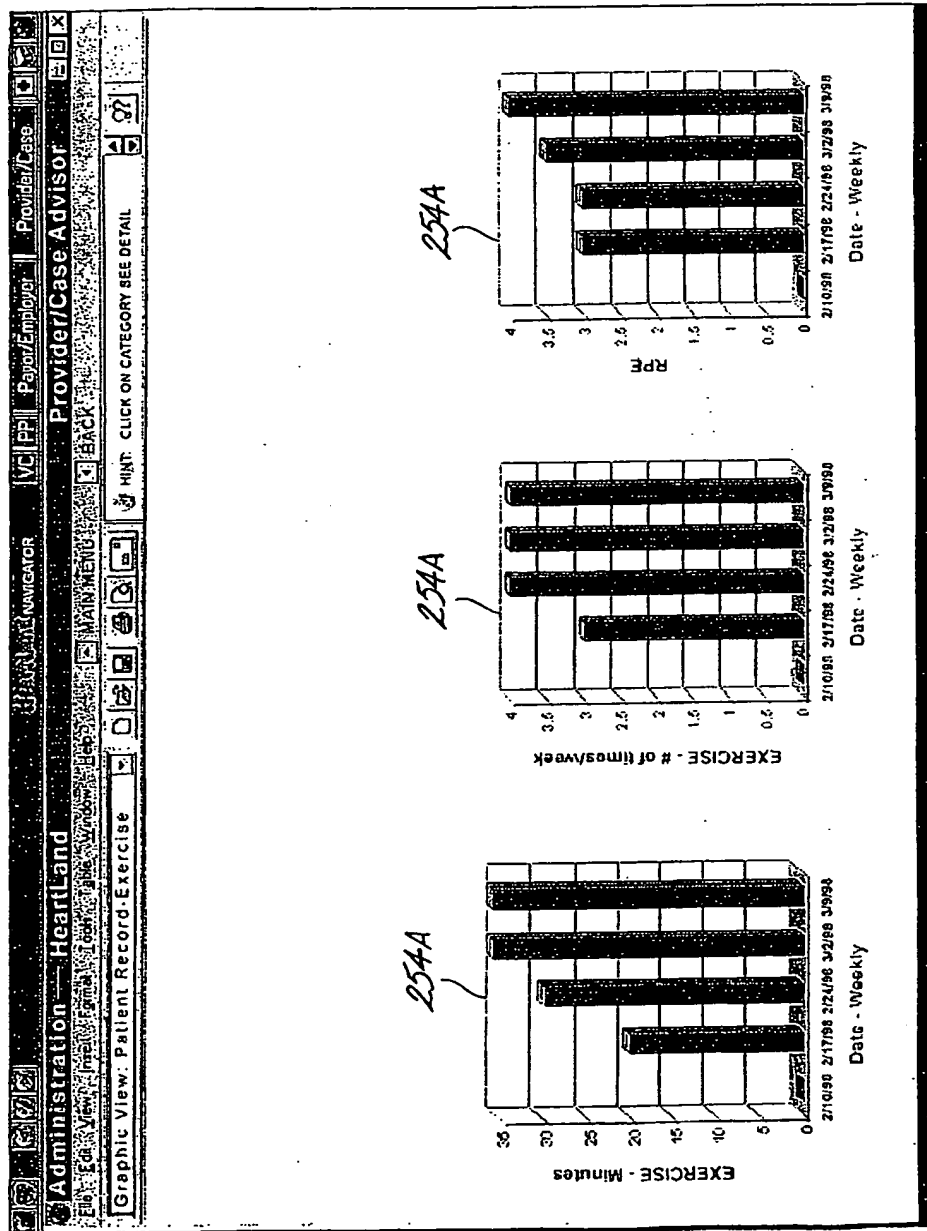


Fig. 77



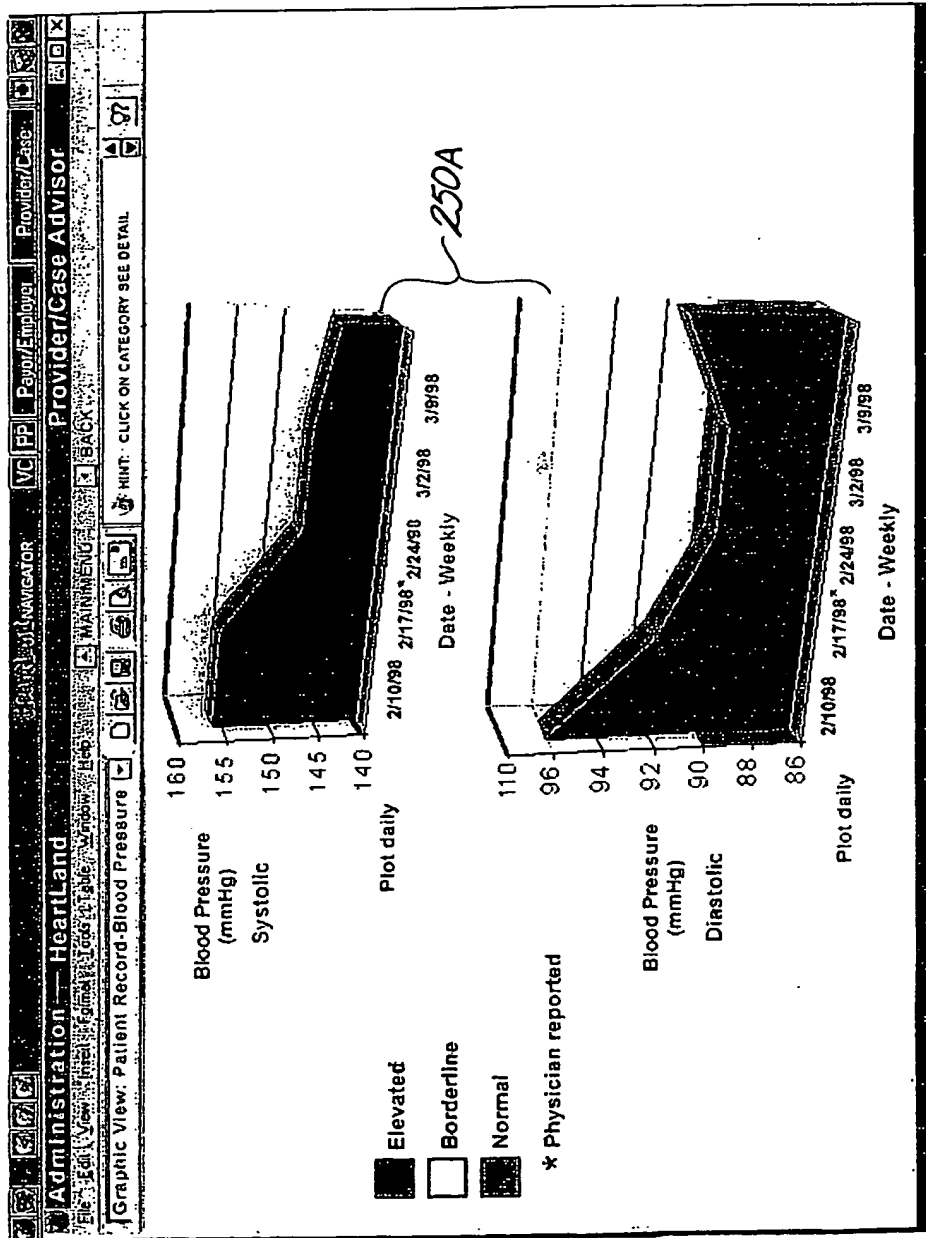


Fig. 76

**Administration - Heartland**  
 File Edit View Print Formulas Tools Window Help  
 Heartland Case Management Review  
 NAVIGATOR VC PP Payor/Employer Provider/Case  
 Provider/Case Advisor  
 BACK BEHAVIOR RECOMMEND  
 HINT: CLICK ON CATEGORY SEE DETAIL

Chosen case for review: Fred Smilli  
 Heartland I.D. #: 23-632  
 Subscriber since: 1/20/96

258 Fred Smilli, 48 years, anterior M.I. 1/8/98 Risk Factors: Hypertension, smoker, lack of exercise, elevated LDL cholesterol

BASELINE (1/20/96)	2/10/98	2/17/98	2/24/98	3/7/98	3/18/98	GOALS
B.P. (160/98 mmHG)	156/96	156/92	148/90	148/90	148/92	B.P. < 140/90 mmHG
Cigarettes/day (20)	16	10	0	0	0	Complete Smoking Cessation
Physical Activity minutes/week/RPE	0/0/0	20/3/3	30/4/3	35/4/3.5	35/4/4	45 mins walking / 7 days week / 6
Resting H.R. 68	79	68	59	57	57	WEIGHT: 170 BMI: 25.00
Weight baseline (180 lbs.)	179 lbs.	178 lbs.	176 lbs.	175 lbs.	172 lbs.	3.5 (10=MAX)
Stress level (8) (weekly average)	7.0	7.2	6.9	6.1	6.8	Compliant use of Medications
Aspirin 325 mg/day (missed dose/wk)	1	2	1	1	1	
Hydrochlorothiazide 12.5 mg. daily (missed dose/wk)	1	1	0	0	0	
Lovasatin 20 mg/day (missed dose/wk)	1	1	0	0	0	
Calories avg / day	3,800		3,300		3,100	2,800 cal / day
Fat Calories %	45%		45%		25%	15% fat calories
Cholesterol - LDL	142 mg/dl		140 mg/dl		125 mg/dl	100 mg/dl
Cholesterol - HDL	38 mg/dl		37 mg/dl		38 mg/dl	45 mg/dl
Cholesterol	245		225		210	190

250  
252  
254  
256  
258

240  
242  
244  
246  
270  
272

Fig. 75

SUBSTITUTE SHEET (RULE26)

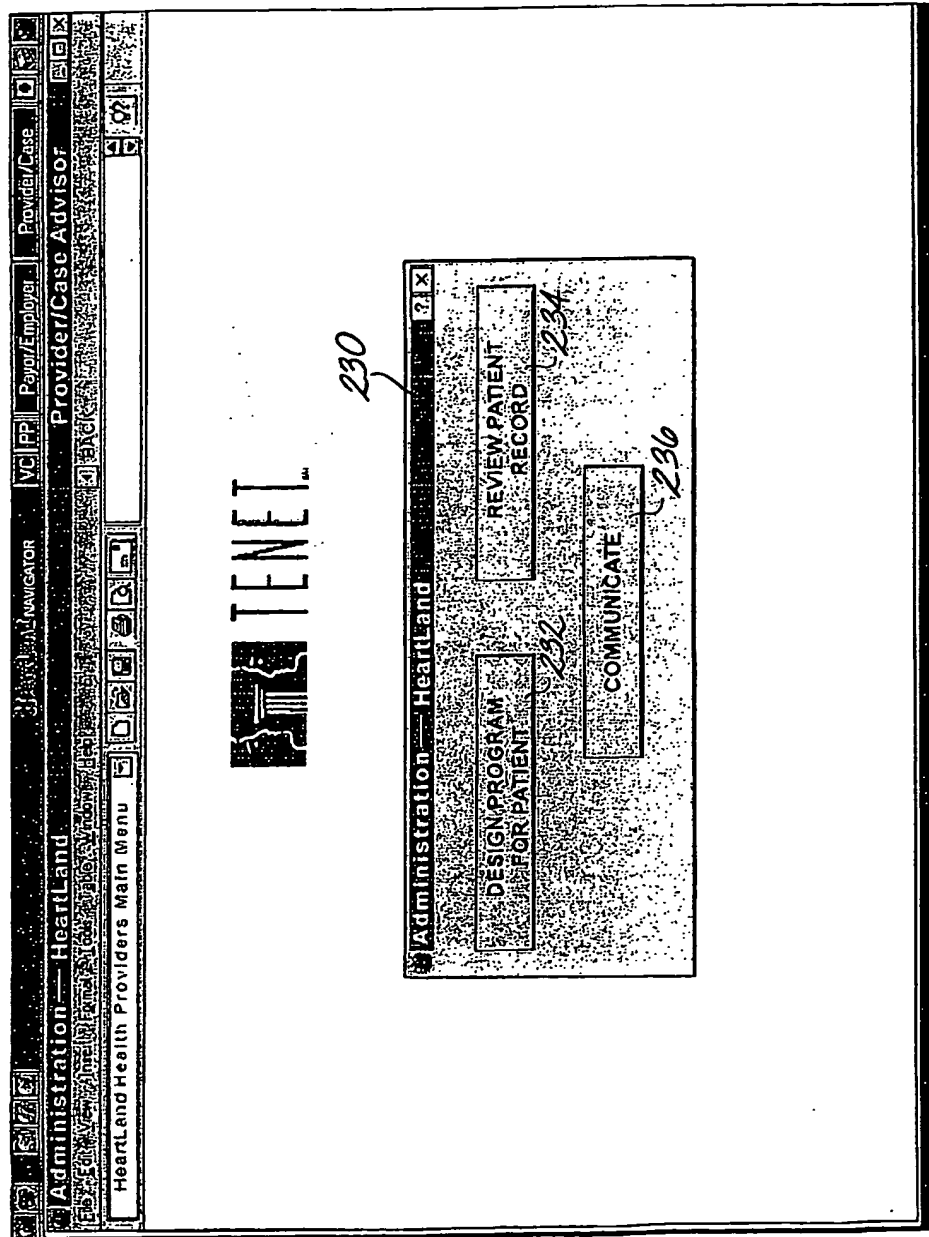


Fig. 7A

HeartLand Security Screen

Please enter your authentication information.

Resource: unspecified

Username: Schroeder

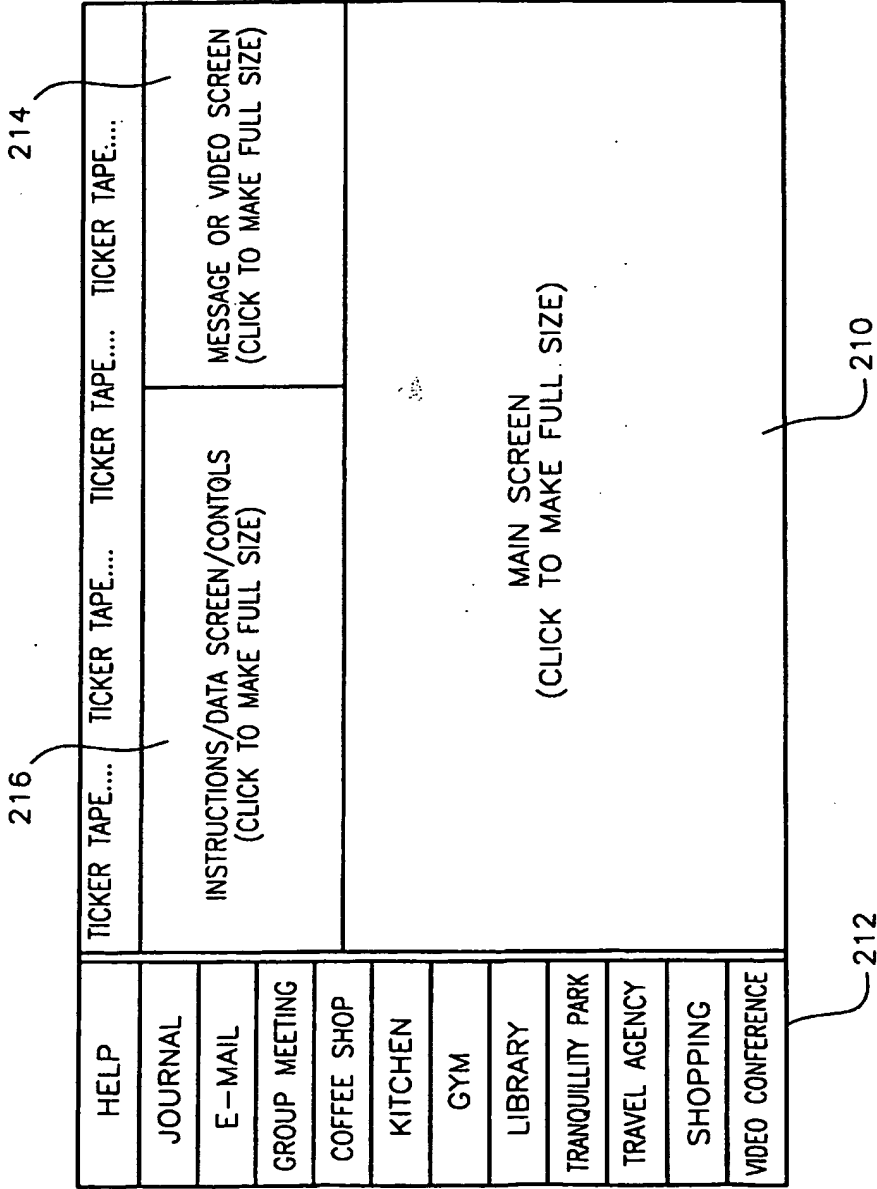
Password: \*\*\*\*\*

OK Cancel

HINT: CLICK ON CATEGORY SEE DETAIL

Fig. 73

FIG. 72



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*Fig. 7L*

SUBSTITUTE SHEET (RULE26)

DETERMINING YOUR TARGET HEART RATE ZONE	
1. Take your pulse on your neck or wrist.	
2. Subtract your age from 220.	220 - 40 Sample Age 180
	Maximum heart rate
3. Multiply maximum heart rate by .55	x .55
Lower heart rate limit	99
4. Multiply maximum heart rate by .85	x .85
Upper heart rate limit	153
5. Your target heart rate zone is defined by lower and upper heart rate limits.	
TO SEE IF YOU ARE IN YOUR TARGET HEART RATE ZONE	
Take your pulse for :10 seconds and multiply that number by six.	
This should be in your Target Heart Rate Zone.	

Fig. 70

SUBSTITUTE SHEET (RULE 26)

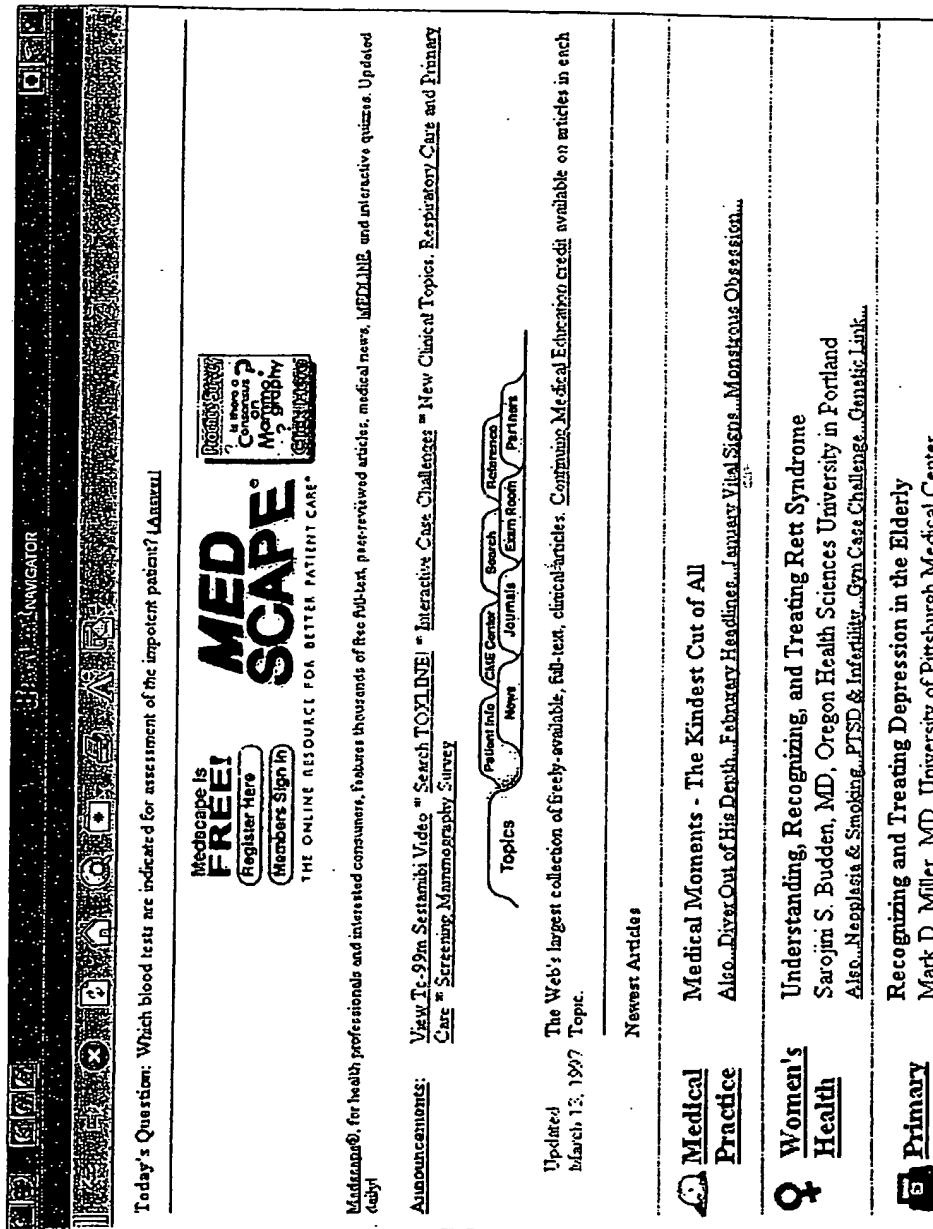
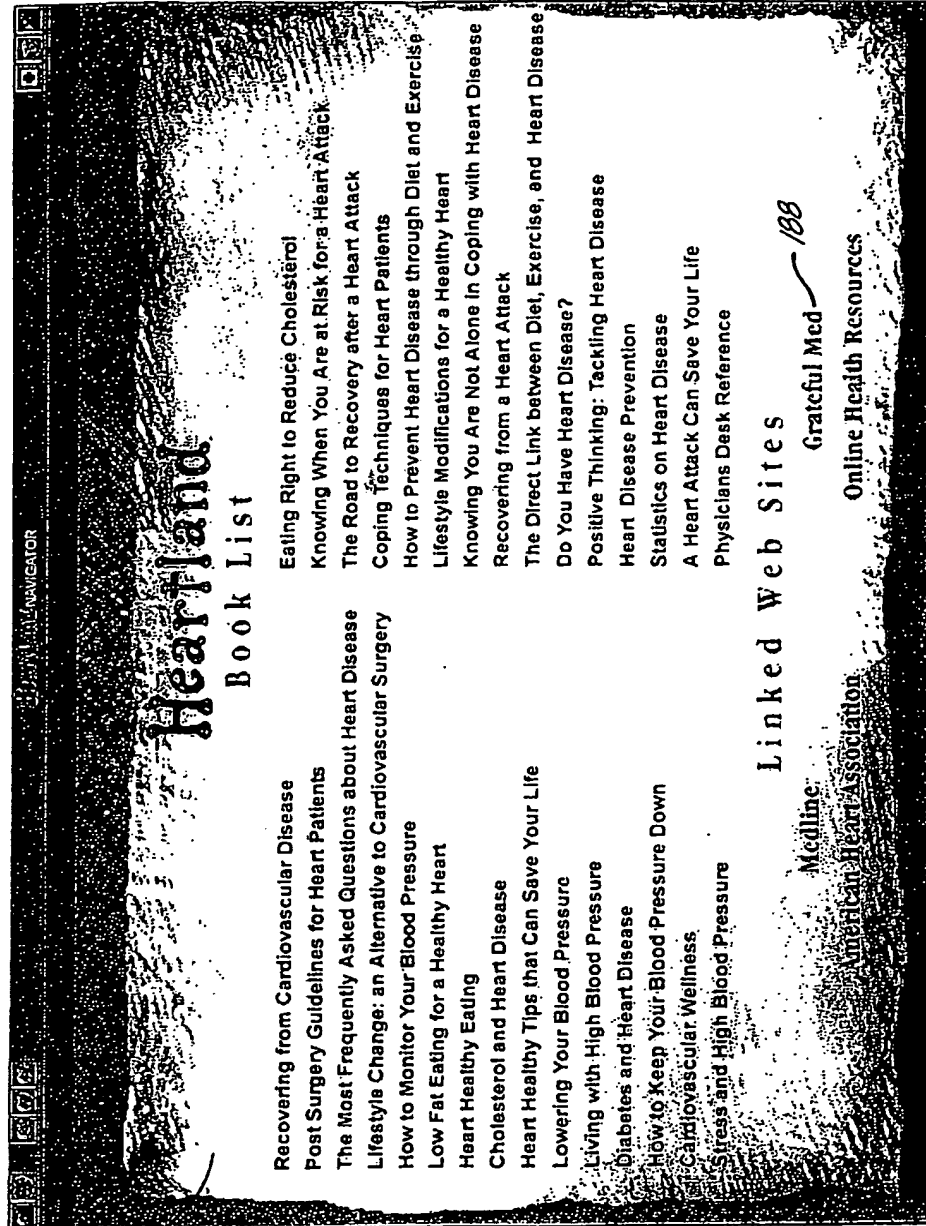
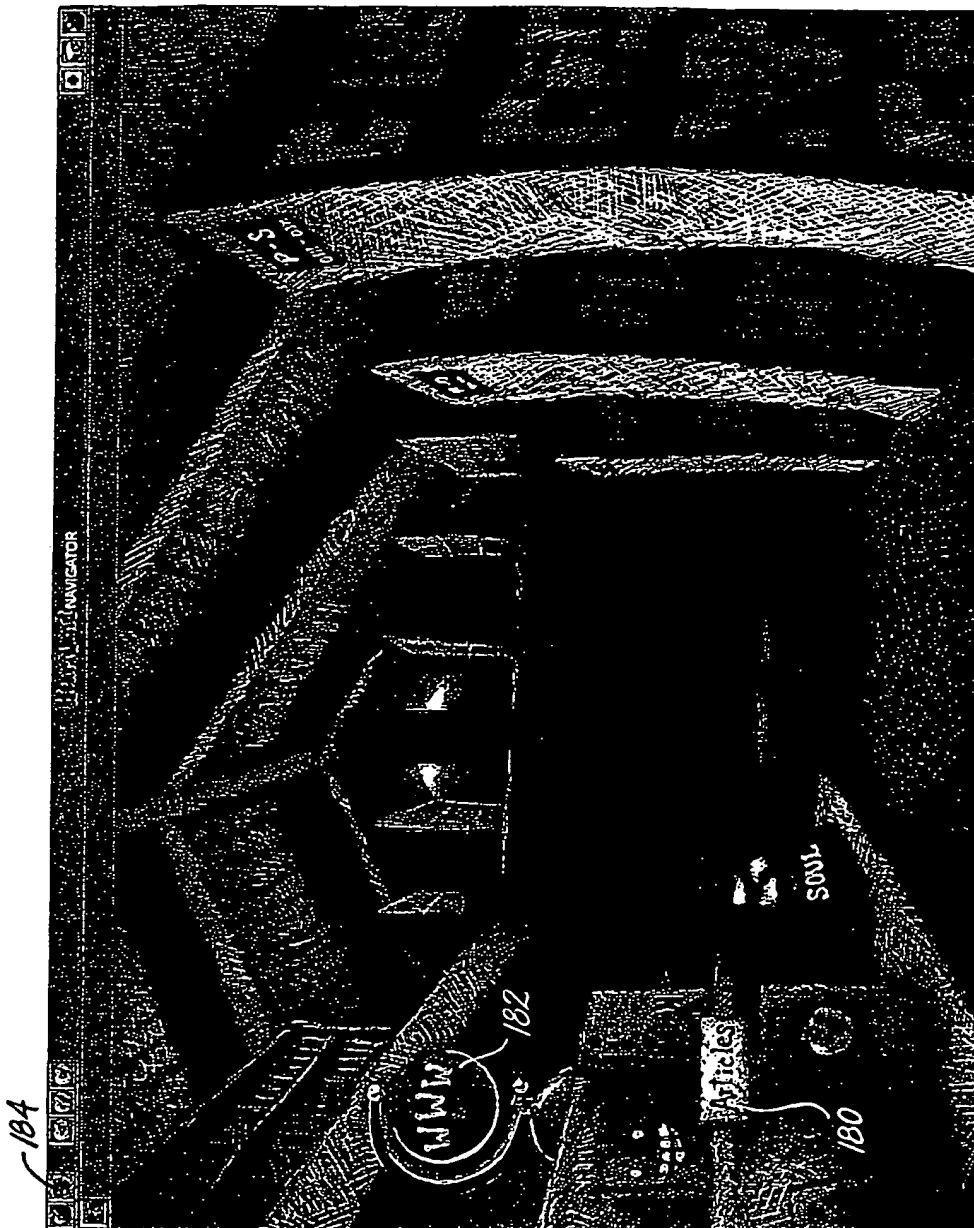


Fig. 69





SUBSTITUTE SHEET (RULE26)



SUBSTITUTE SHEET (RULE26)

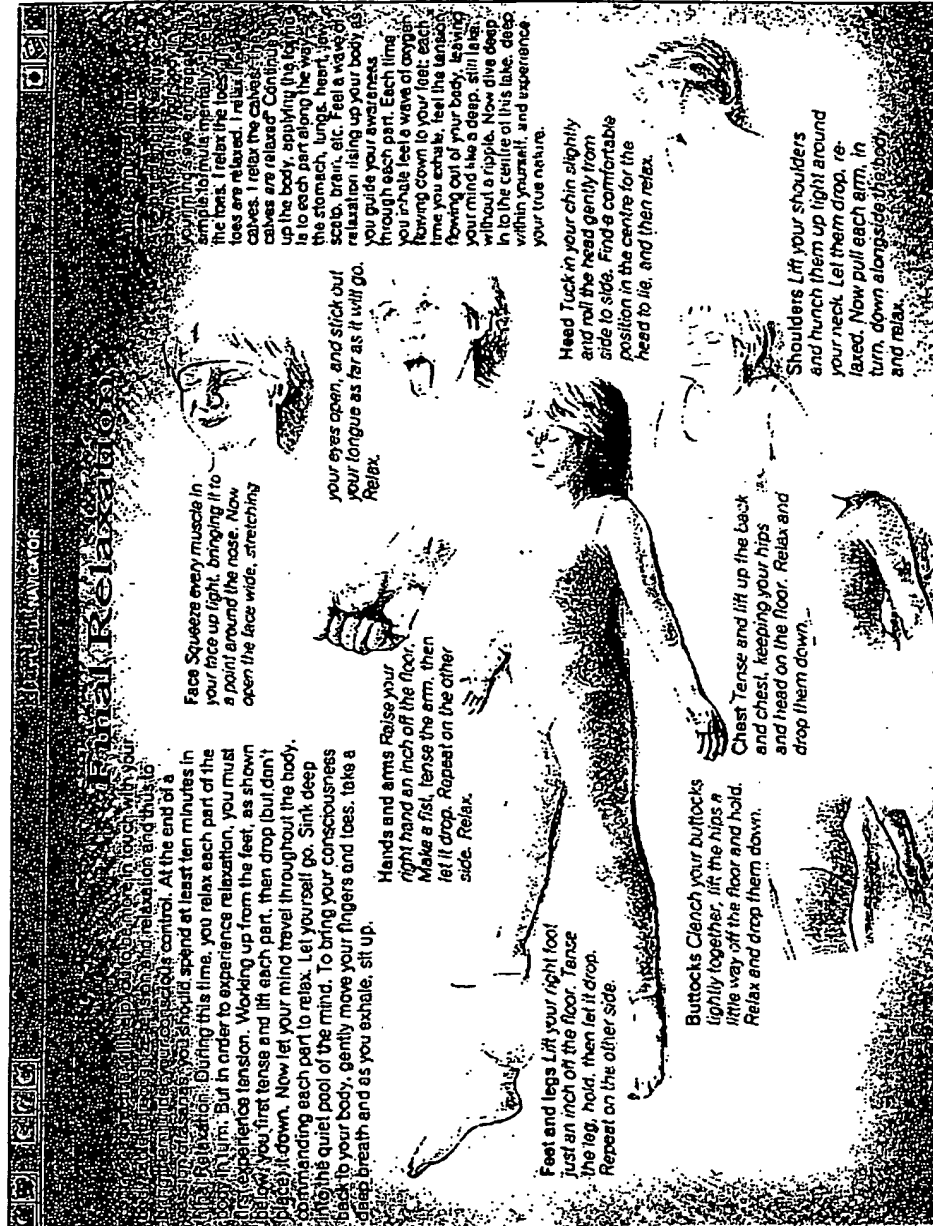
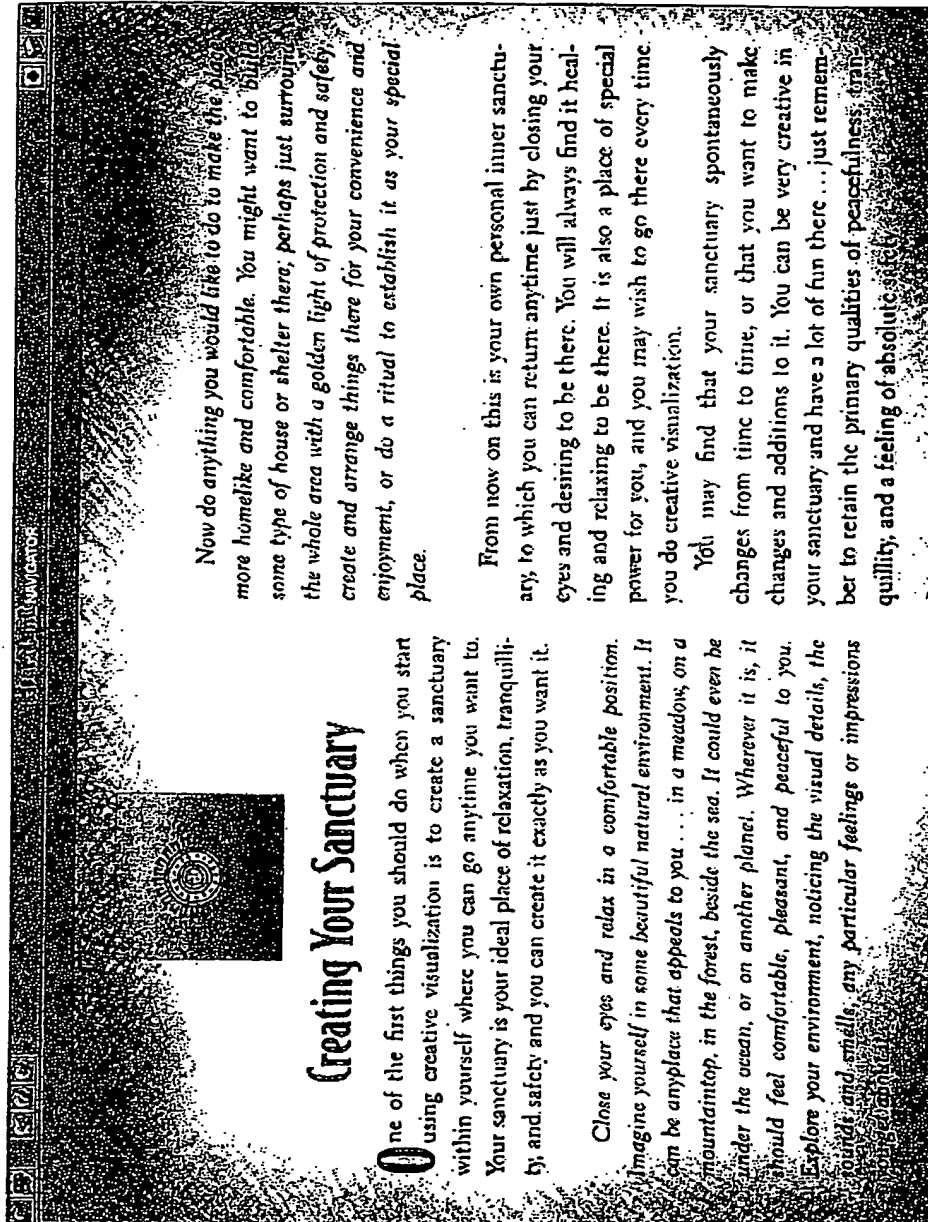


Fig. 66

SUBSTITUTE SHEET (RULE26)



*Fig. 65*

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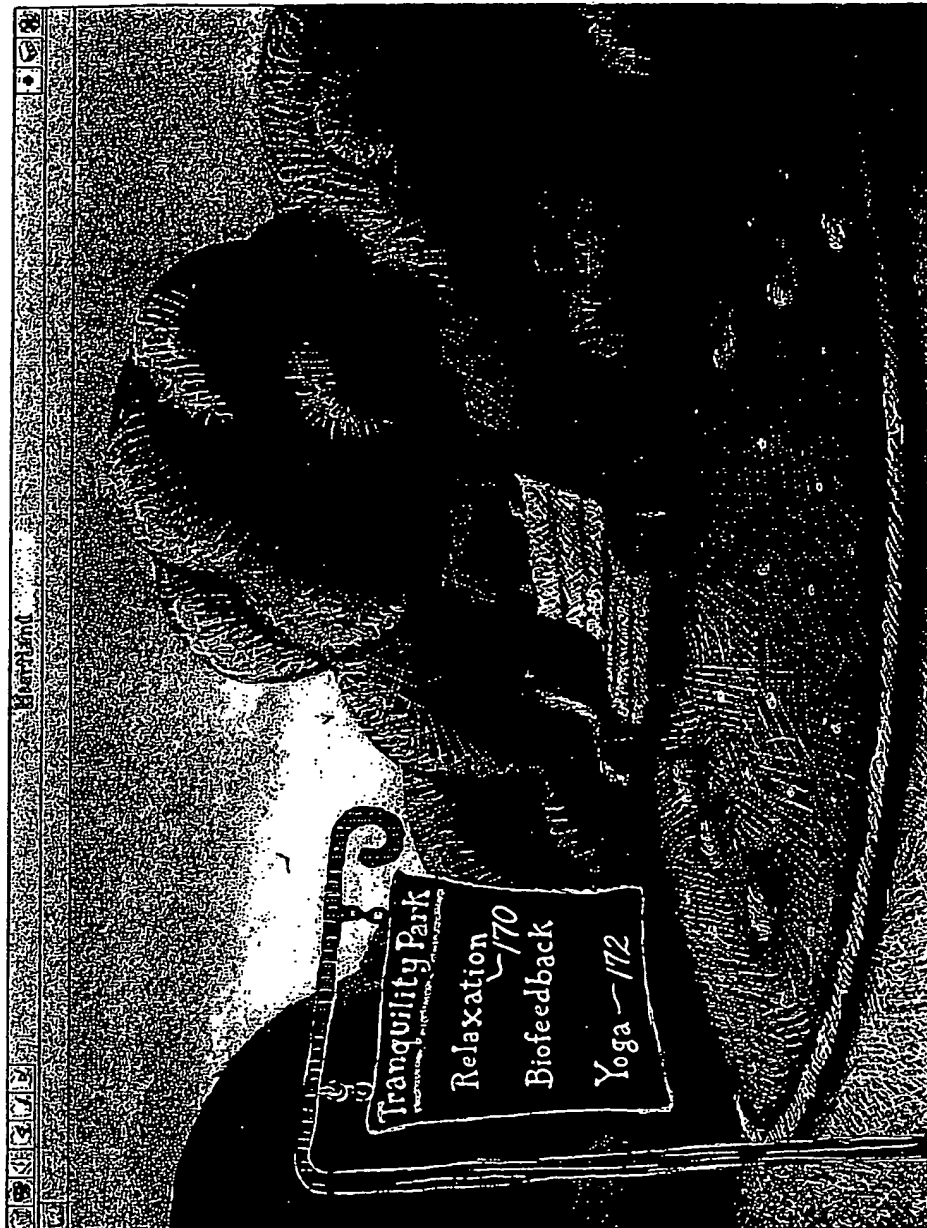
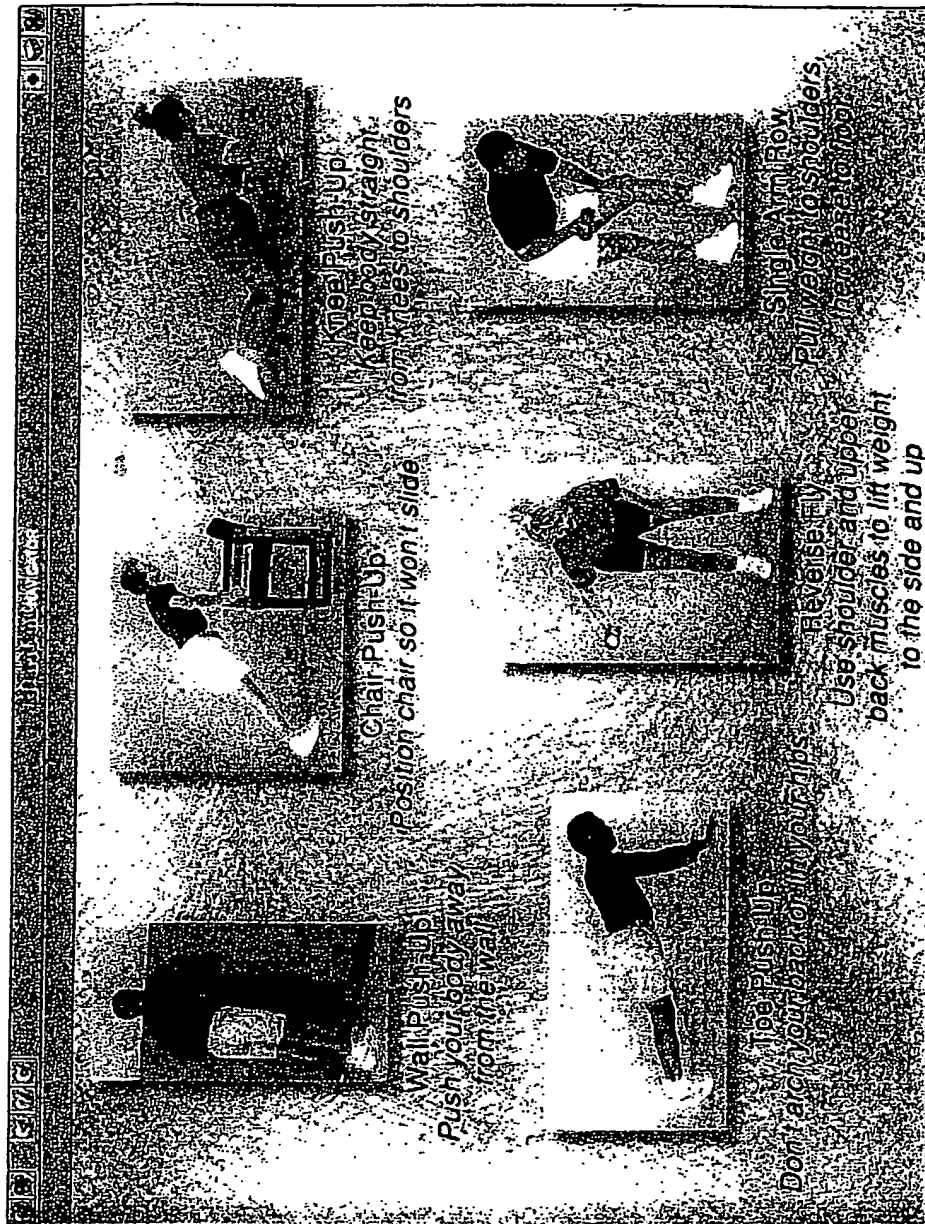


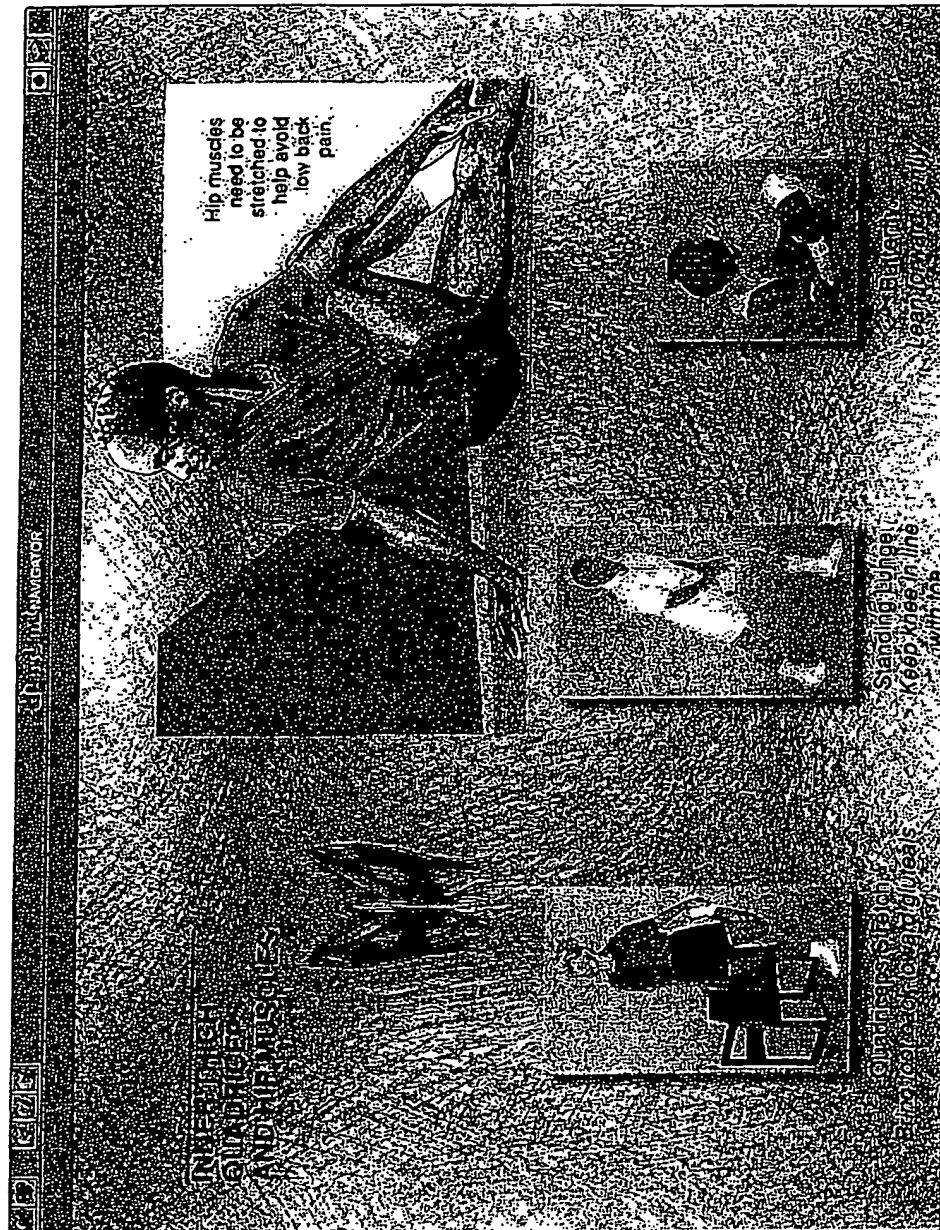
Fig. 6A  
-72

SUBSTITUTE SHEET (RULE26)



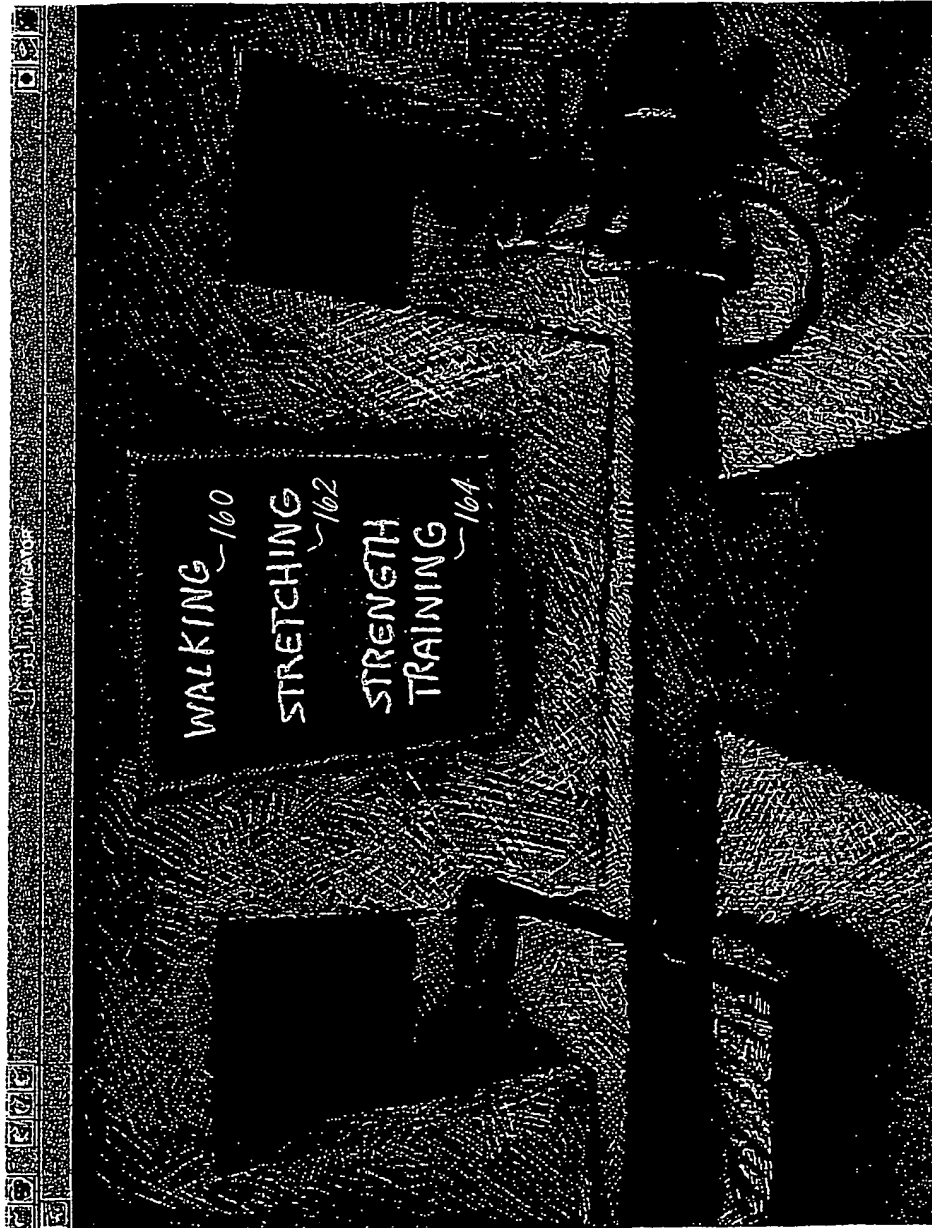
*Fig. 63*

68/105



*Fig. 62*

**SUBSTITUTE SHEET (RULE26)**



*Fig. 61*

**SUBSTITUTE SHEET (RULE26)**



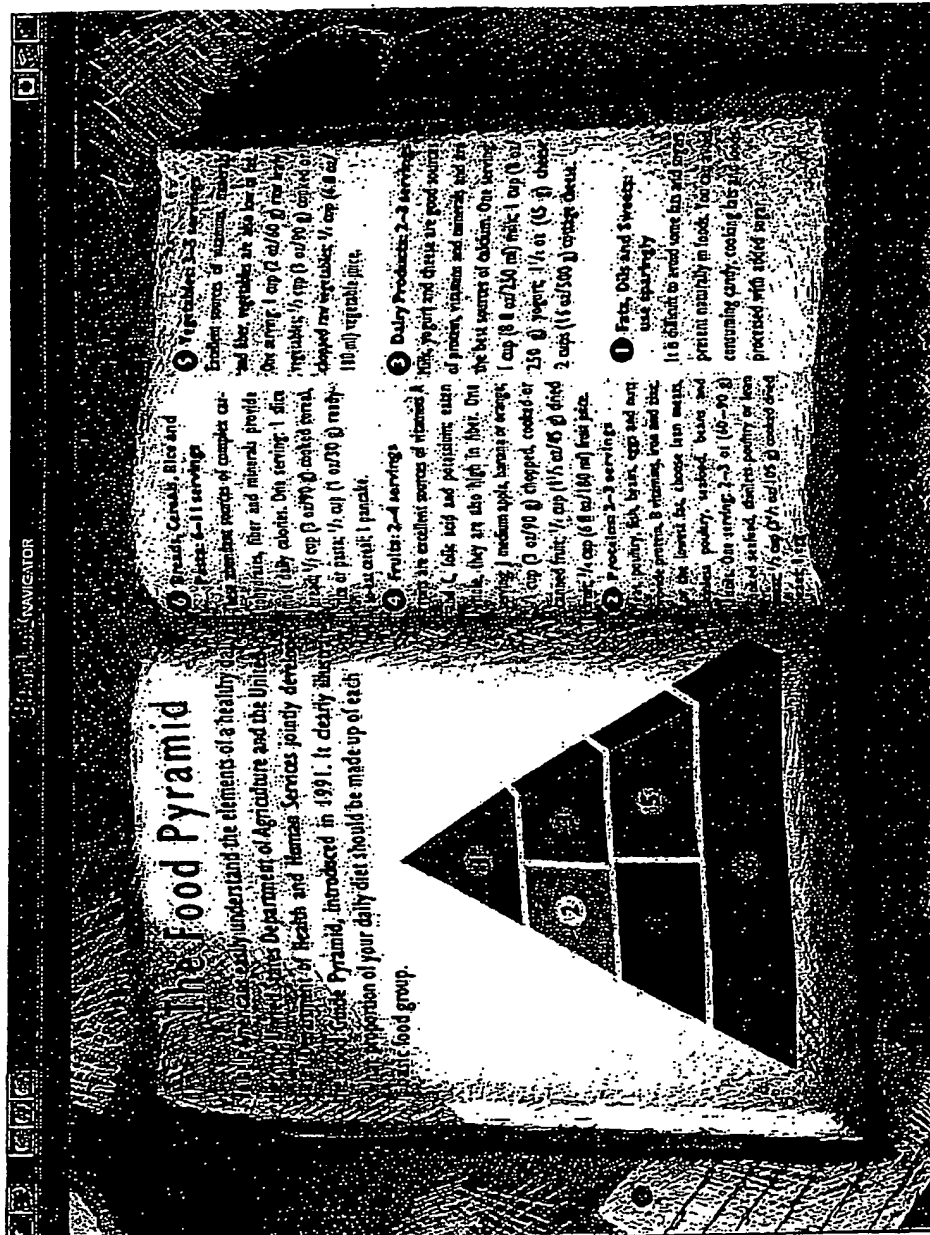


Fig. 60

65/105

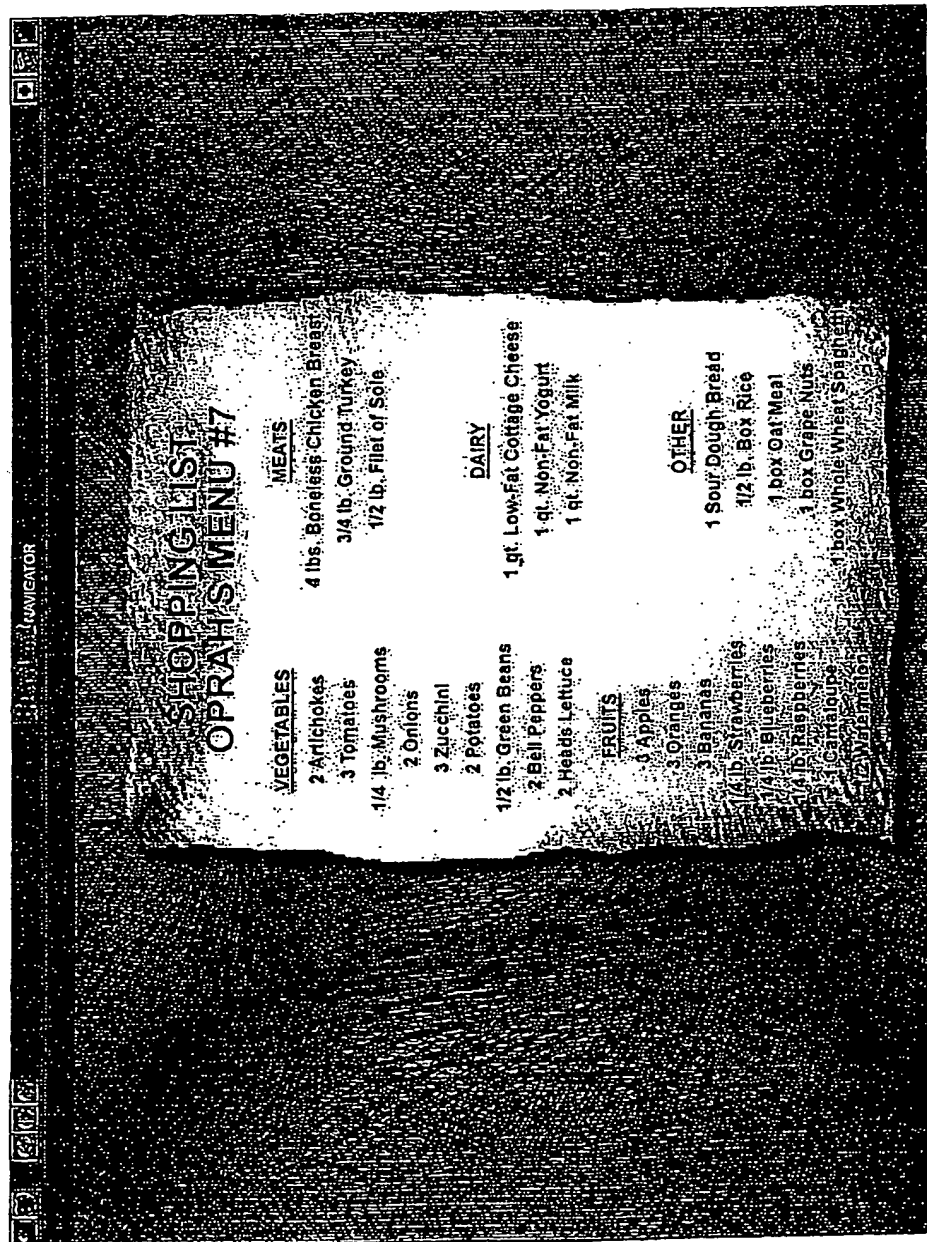


Fig. 59

156

SUBSTITUTE SHEET (RULE26)

64/105

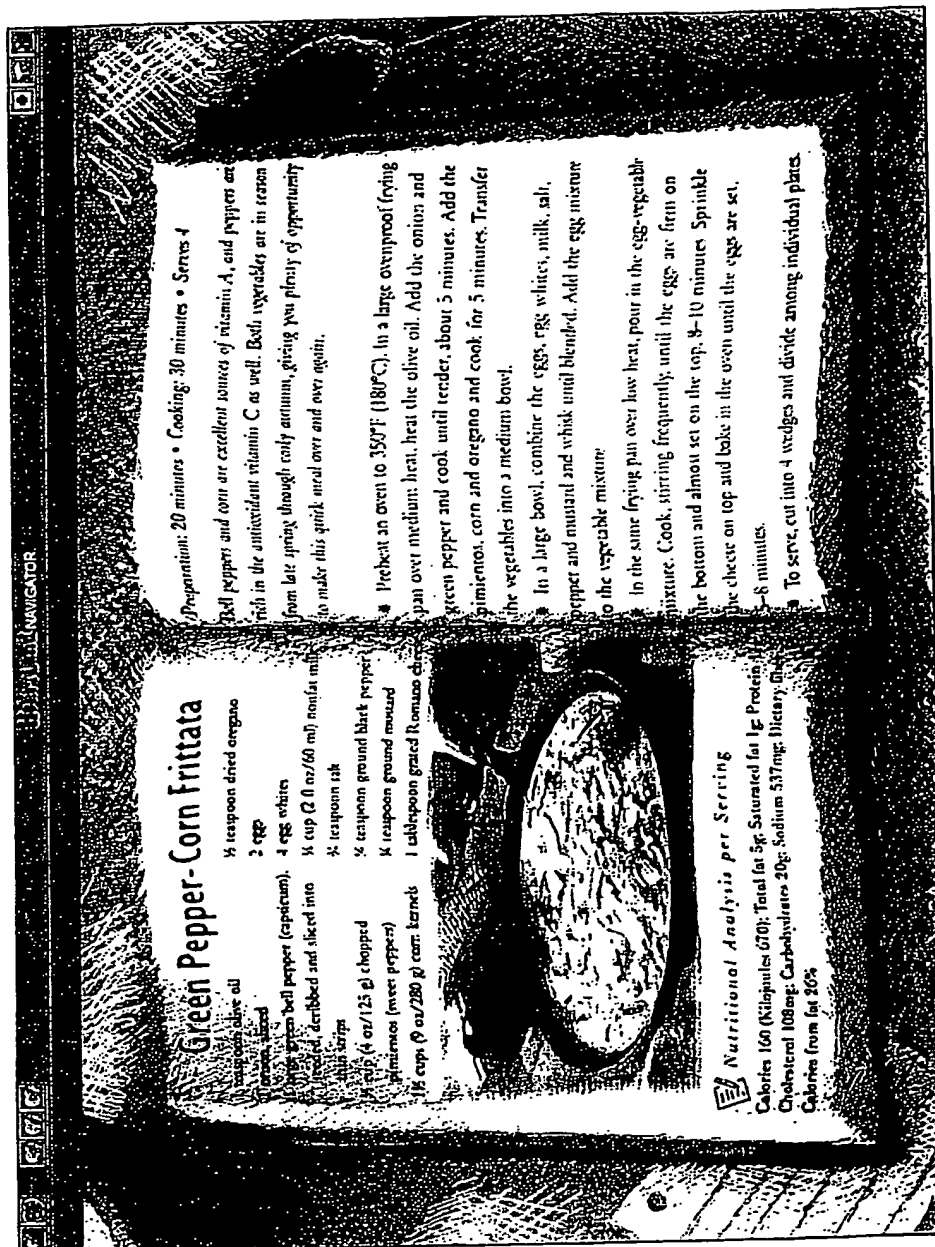
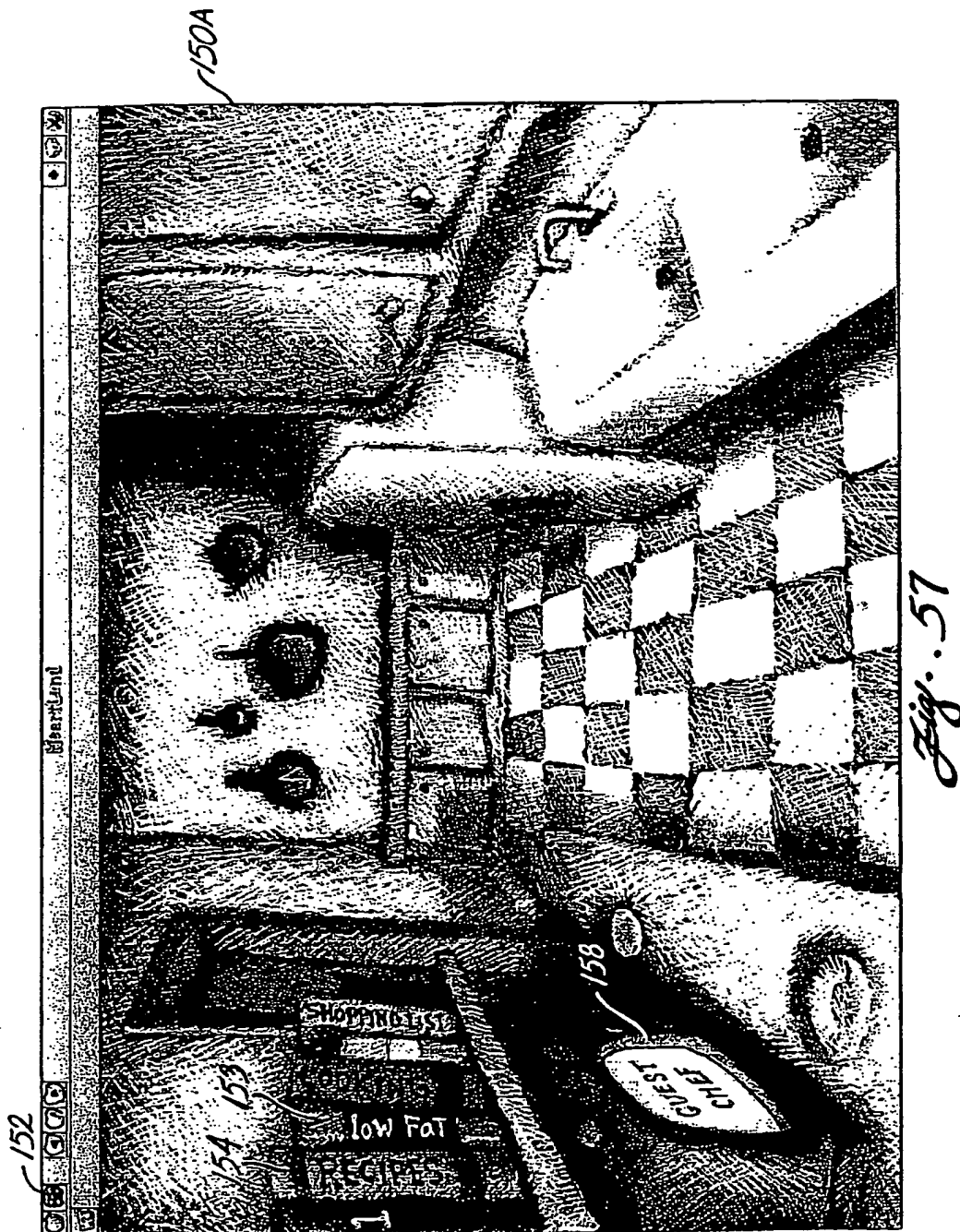


Fig. 58

154

63/105



SUBSTITUTE SHEET (RULE26)

62/105

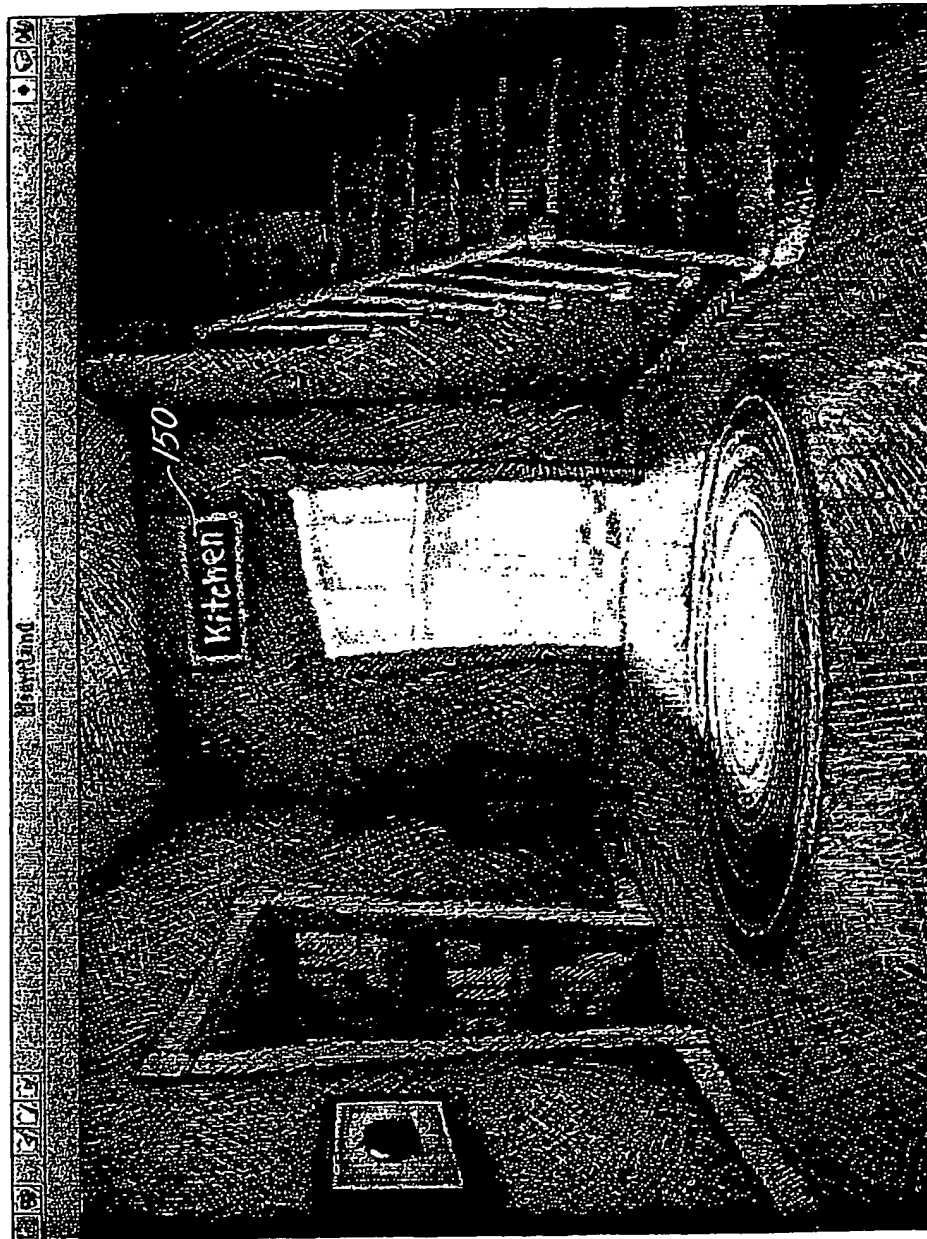
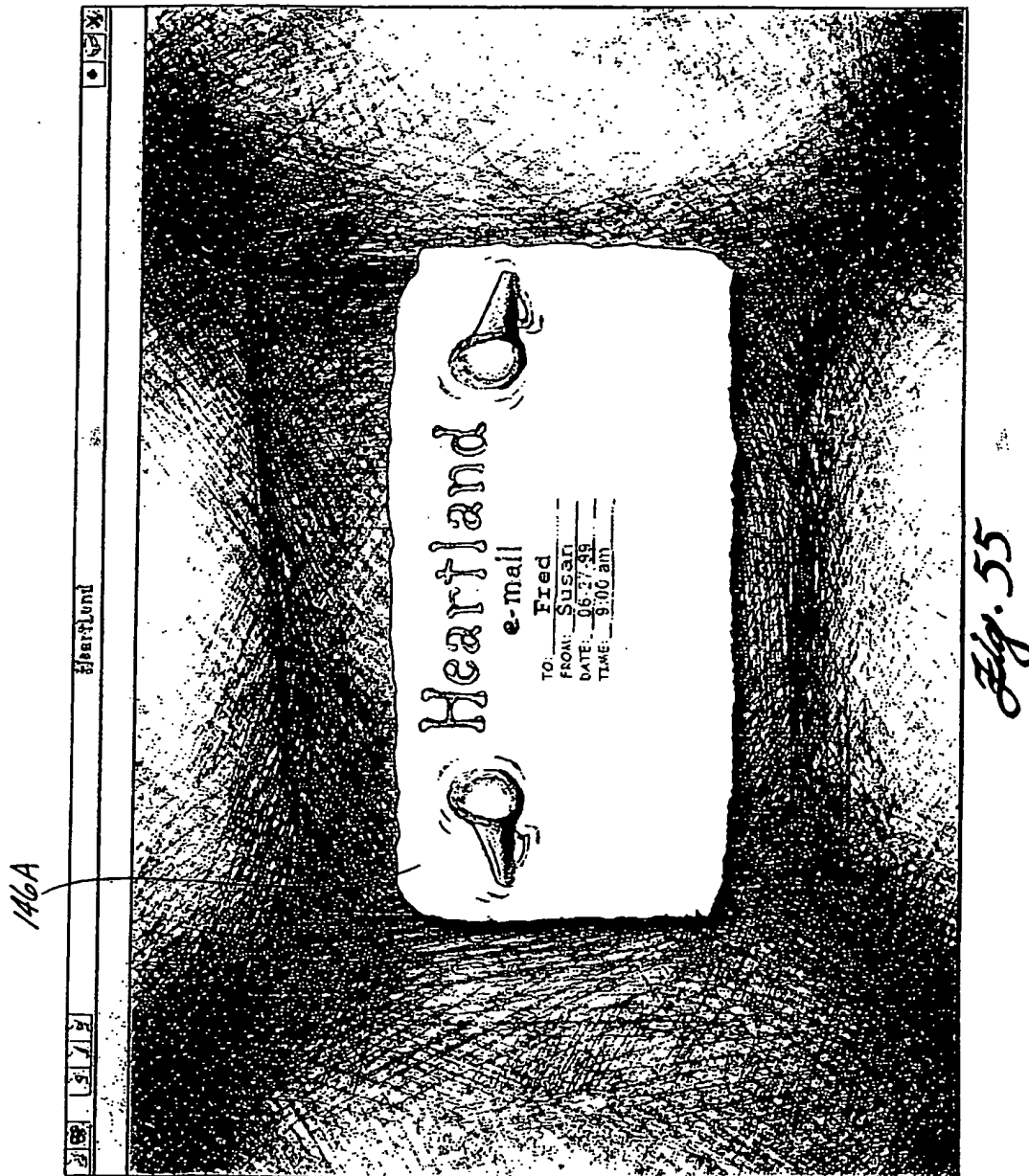


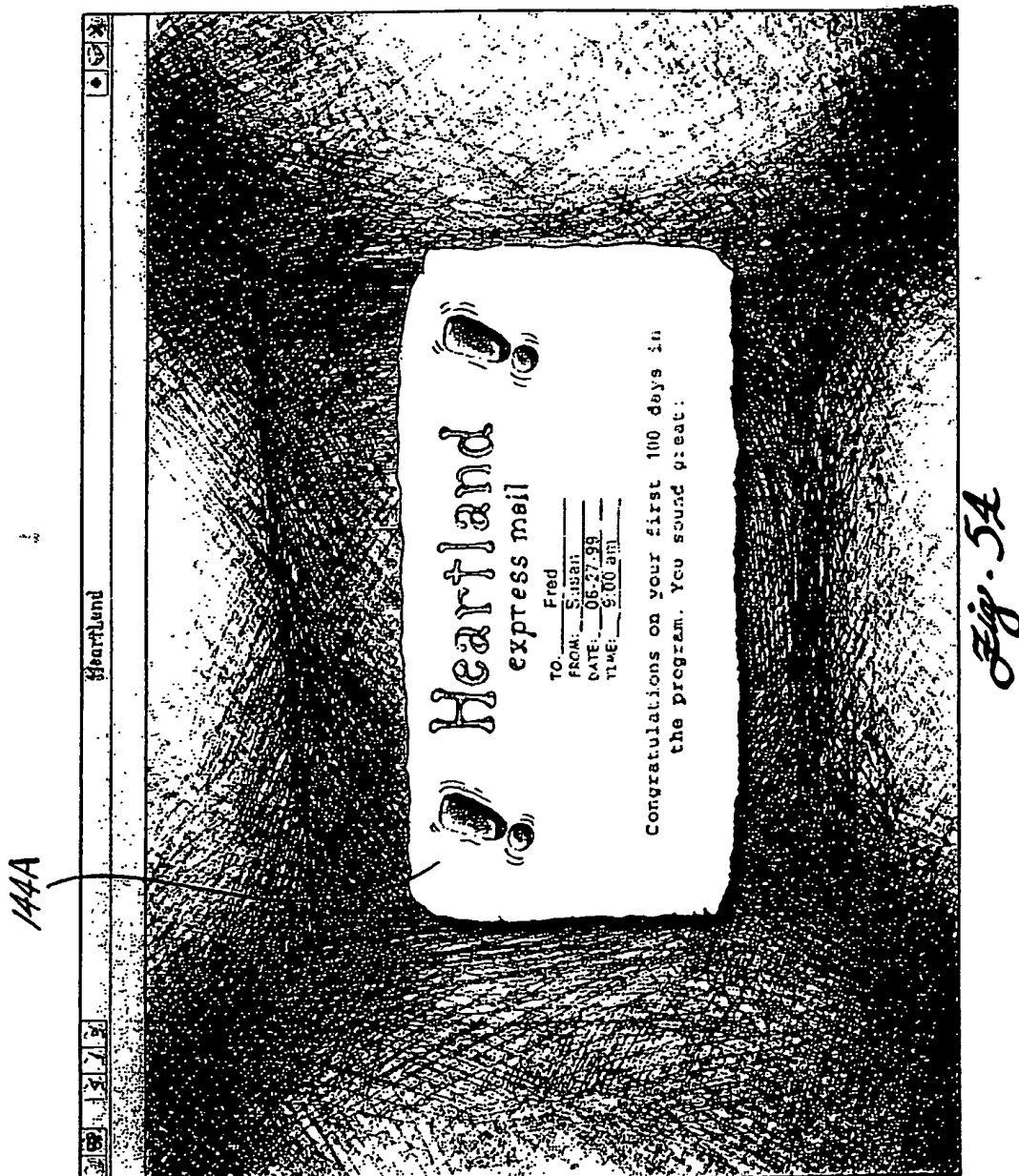
Fig. 5b

SUBSTITUTE SHEET (RULE26)



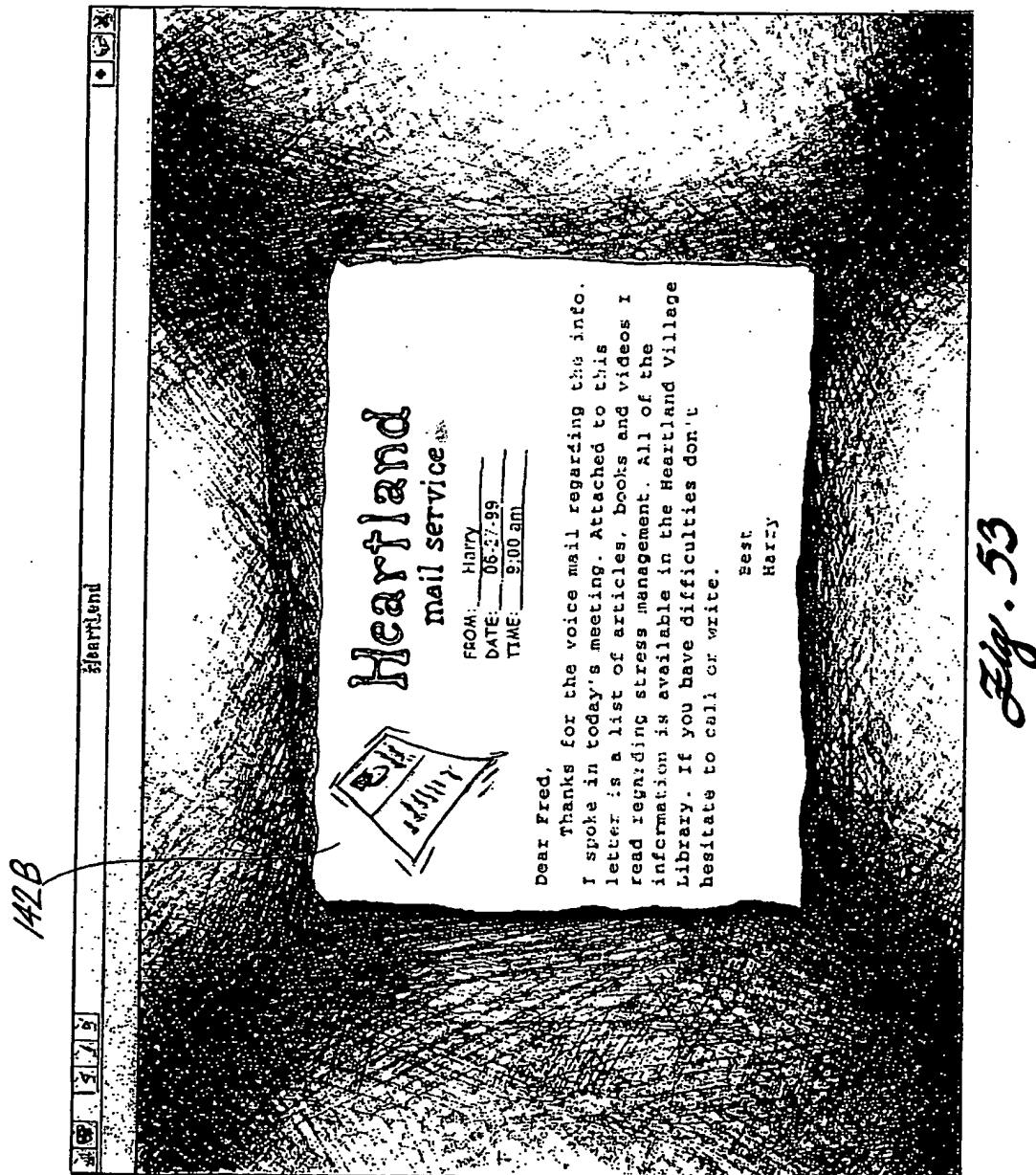
SUBSTITUTE SHEET (RULE26)

60/105



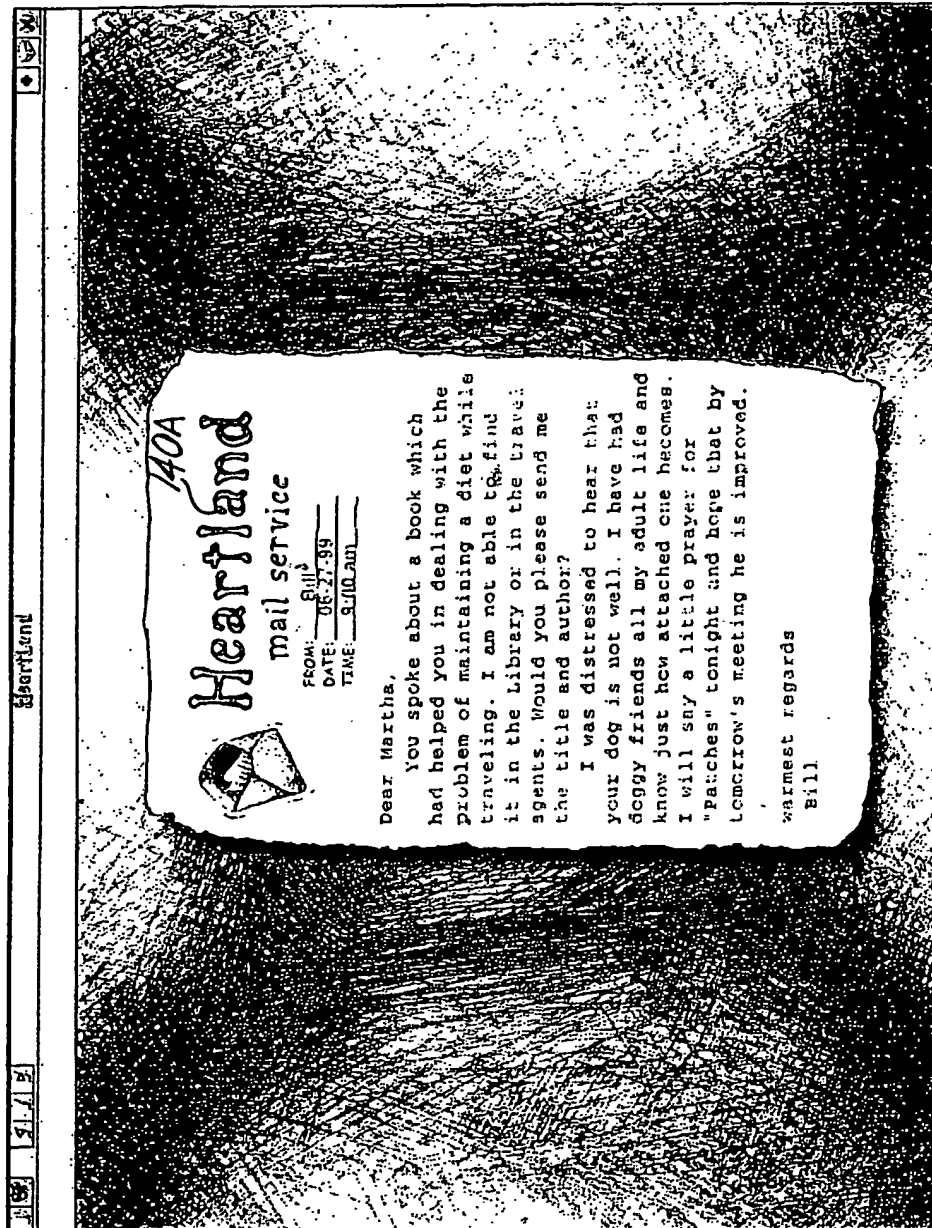
SUBSTITUTE SHEET (RULE26)

59/105



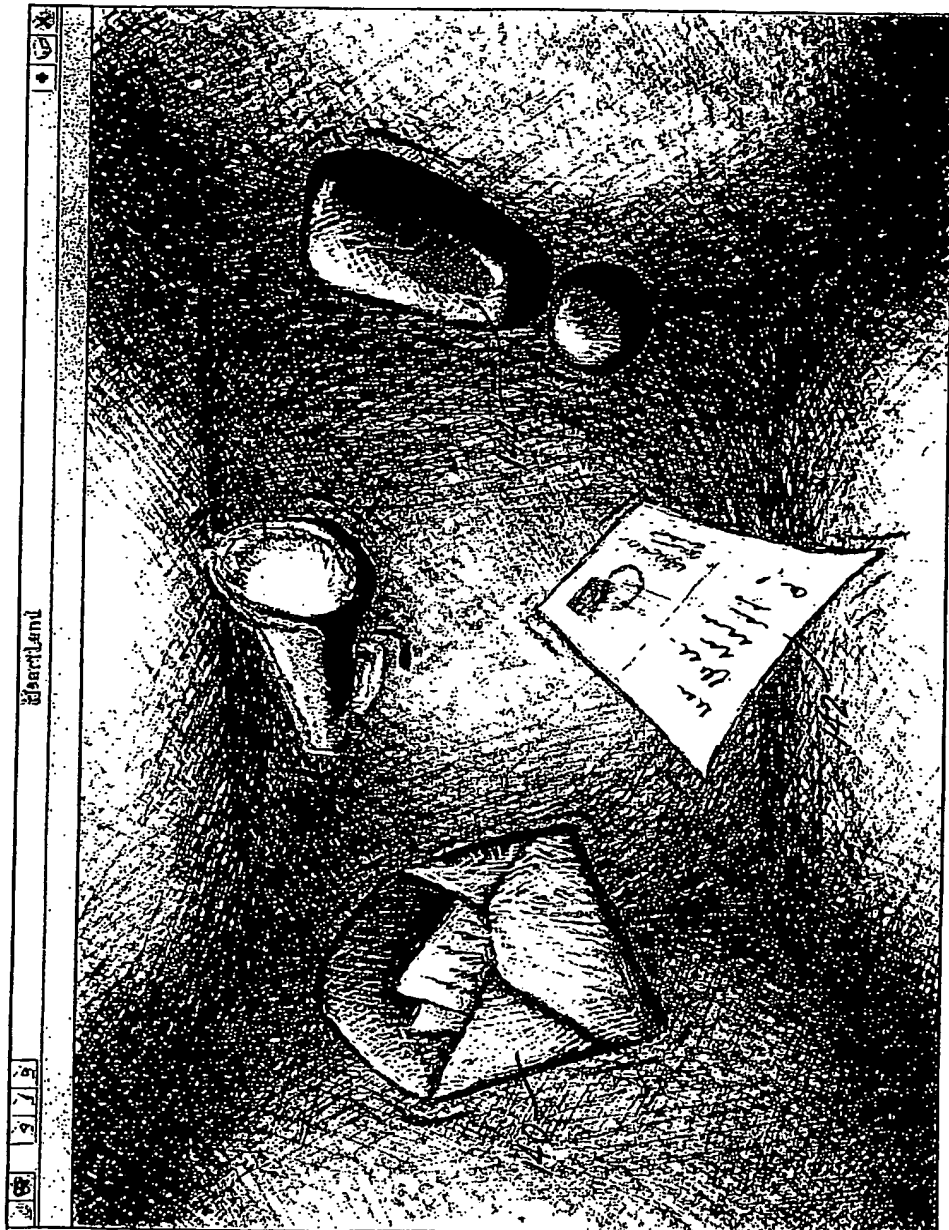
SUBSTITUTE SHEET (RULE26)





*Fig. 52*

**SUBSTITUTE SHEET (RULE26)**



*Fig. 51*

**SUBSTITUTE SHEET (RULE26)**

The image shows an open notebook with two pages visible. The left page has a title "EMOTICONS ~ 100" and a list of emotions with checkboxes next to them. The right page has a title "VITAL SIGNS ~ 102" and contains two sections: "EXERCISE ~ 104" and "STRESS MGMT.". The notebook is placed on a dark, textured surface.

**Left Page:**

EMOTICONS ~ 100

Happy	<input type="checkbox"/>
Comprehending	<input type="checkbox"/>
more confident	<input type="checkbox"/>
confident	<input type="checkbox"/>
committed	<input type="checkbox"/>
Worried	<input checked="" type="checkbox"/>
anxious	<input type="checkbox"/>
scared	<input type="checkbox"/>
Aware	<input type="checkbox"/>
Growing	<input type="checkbox"/>
Falling	<input type="checkbox"/>
Drifting	<input type="checkbox"/>
Angry	<input type="checkbox"/>
Sad	<input type="checkbox"/>
Depressed	<input type="checkbox"/>

**Right Page:**

VITAL SIGNS ~ 102

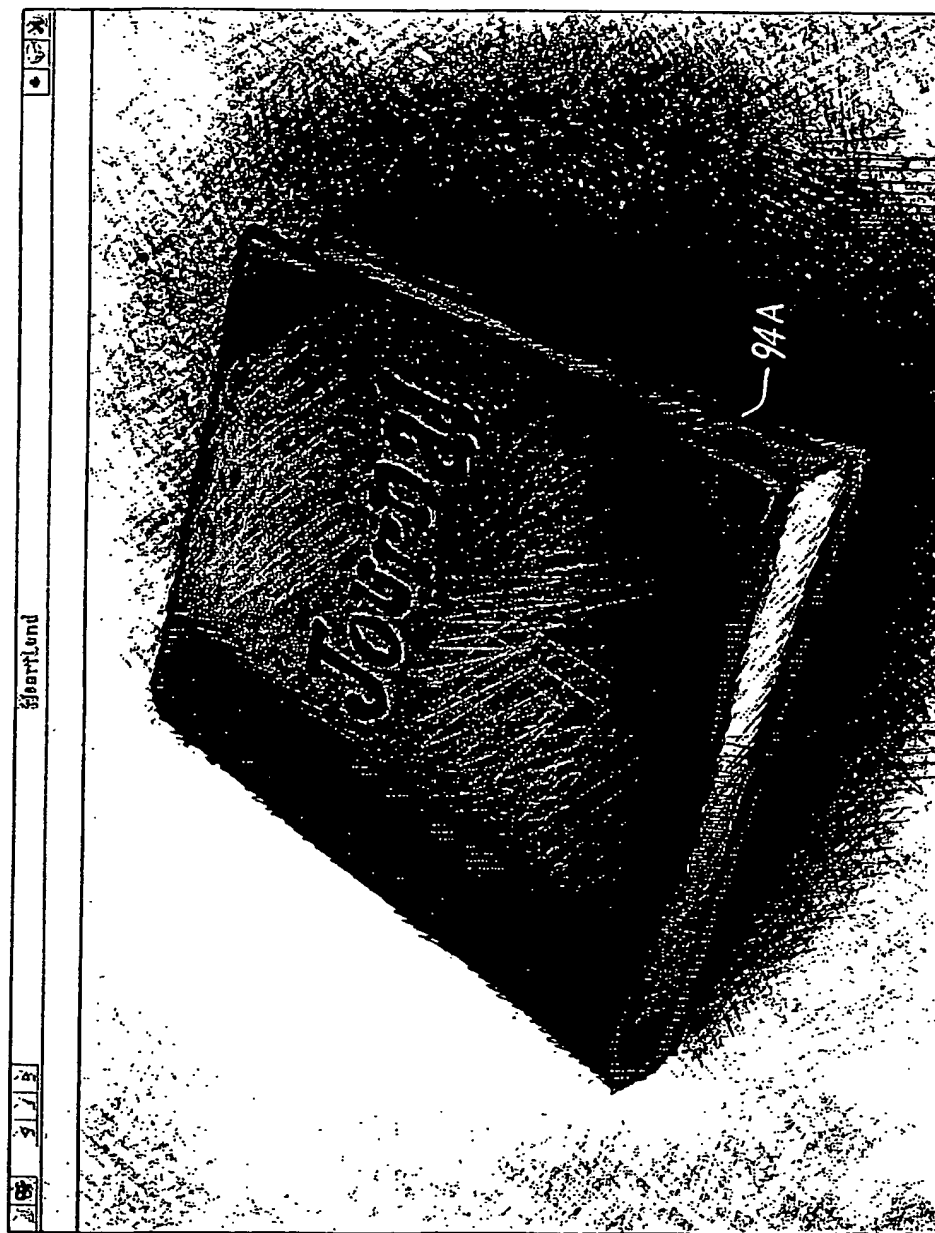
Heart Rate	82
Blood Pressure	160/98
Cholesterol	290
Diet	<input type="checkbox"/> Y <input type="checkbox"/> N

EXERCISE ~ 104

Walking	Y <input type="checkbox"/> N <input type="checkbox"/>
Stretching	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Stress Mgmt.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

**Fig. 50**

**SUBSTITUTE SHEET (RULE26)**

*Fig. 49***SUBSTITUTE SHEET (RULE26)**

100

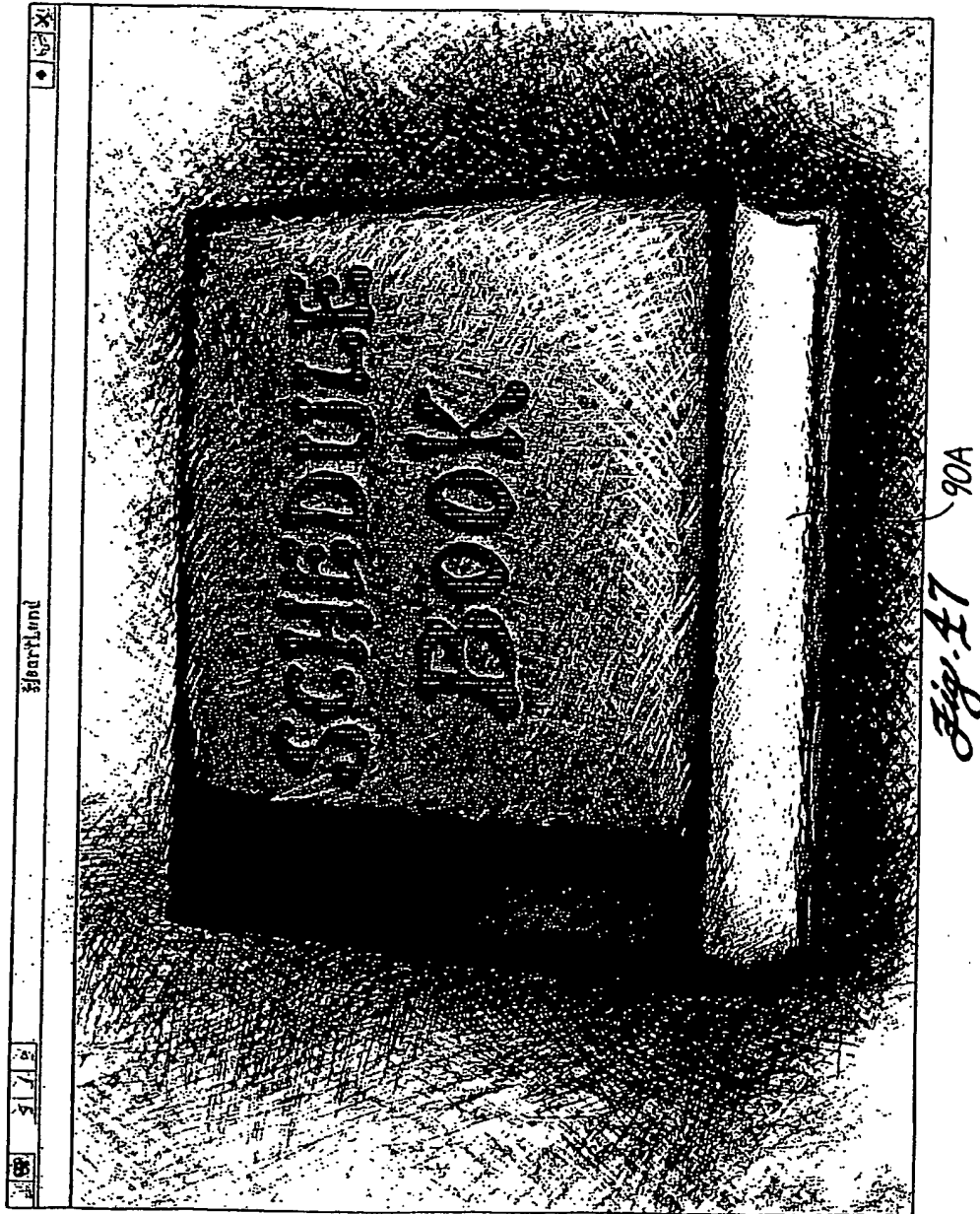
106 108

TIME	GROUP	#	CITY	ACTIVITY
7:30 A.M.	Movies	4	LA, CA	Low
7:30 A.M.	Dog Lovers	15	LA, CA	High
7:30 A.M.	Purr-fect-ionist	18	NYC, NY	High
7:45 A.M.	Just for laughs	10	NYC, NY	Med.
8:00 A.M.	Spartans	12	Chicago, IL	Med.
7:30 A.M.	Travelers	5	LA, CA	Low
7:45 A.M.	Cool Set	8	LA, CA	Low
7:45 A.M.	Country Bunkins	12	Ithaca, NY	Med.
7:30 A.M.	City Slickers	8	NYC, NY	Low
7:45 A.M.	K9's	18	NYC, NY	High
8:00 A.M.	Water Babies	7	Dallas, TX	Med.

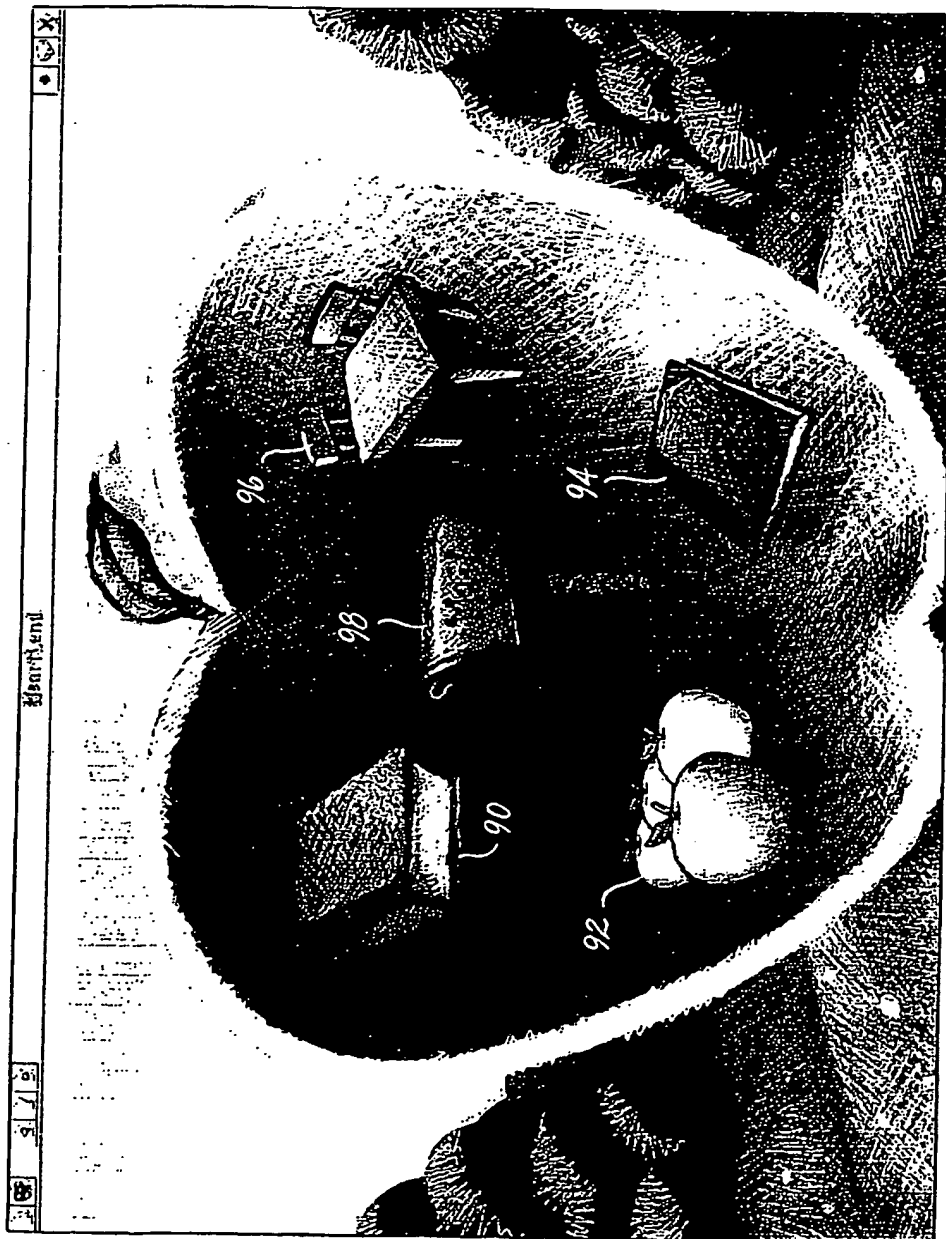
104

Fig. 1B

SUBSTITUTE SHEET (RULE 26)



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*Fig. 16*

SUBSTITUTE SHEET (RULE26)

*Fig. 45*

SUBSTITUTE SHEET (RULE26)



Fig. 1A

**research employee assistance**

**search** 2170

Key Word Search  
Jump to the Web  
http://

**Archive** 2172

**LIBRARY**

**www.resources** 2168

**Alcoholics Anonymous**  
web site of alcoholics anonymous

**American Dietetic Association**  
professional nutrition information

**American Heart Association (AHA)**  
extensive database specializing in heart disease and stroke

**American Medical Association (AMA) Health Insight**  
the AMA's consumer-oriented link

**Ask Dr. Weil**  
best known medically supported alternative health care site

**Better Health and Medical**  
impressive site which emphasizes self-care; includes forums

**Centers for Disease Control and Prevention**

**Exercise**

**Heart Health**

Eat Right to Lower Your High Blood Cholesterol

Facts About Blood Cholesterol

High Blood Pressure Prevention IQ Test

High Blood Pressure Prevention IQ Answers

Weight and Heart Disease IQ Test

Weight and Heart Disease IQ Answers

Healthy Heart IQ Test

Healthy Heart IQ Answers

Exercise and Your Heart

The Human Pump

Facts About Angina

Facts about Coronary Heart Disease

**REFERENCES: HEALTH** 2102

**AIDSDRUGS**  
database of substances being tested in AIDS-related clinical trials

**AIDSLINE**  
database of information on AIDS and related topics

**AIDSTRIALS**  
database of clinical trials of substances being tested for use against AIDS

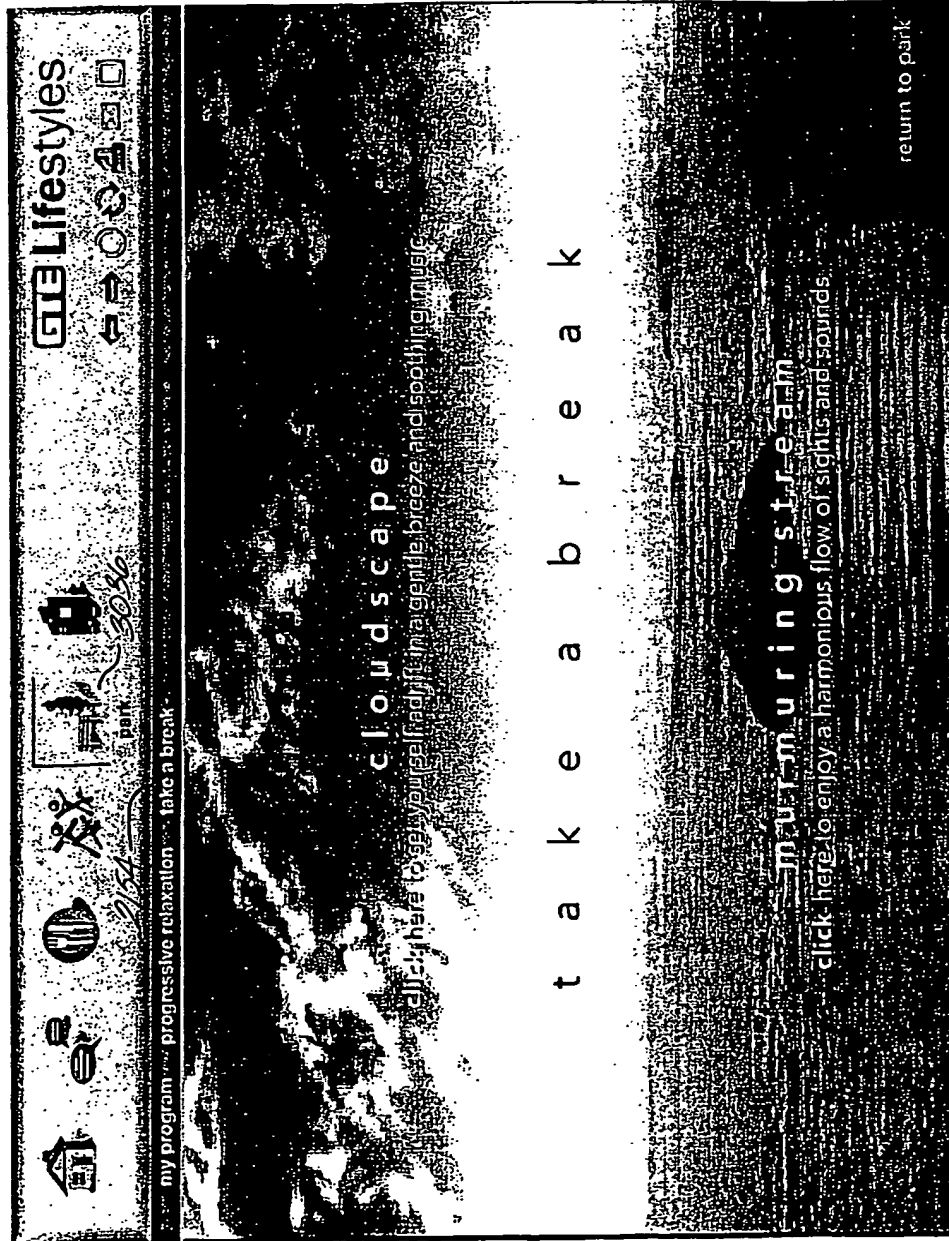
**American Medical Association (AMA) Physician Select**  
find a doctor online

**BIOETHICSLINE**  
database on issues in the ethics of health care

**ChemID**  
dictionary of chemicals

SUBSTITUTE SHEET (RULE26)

*Fig. 43*



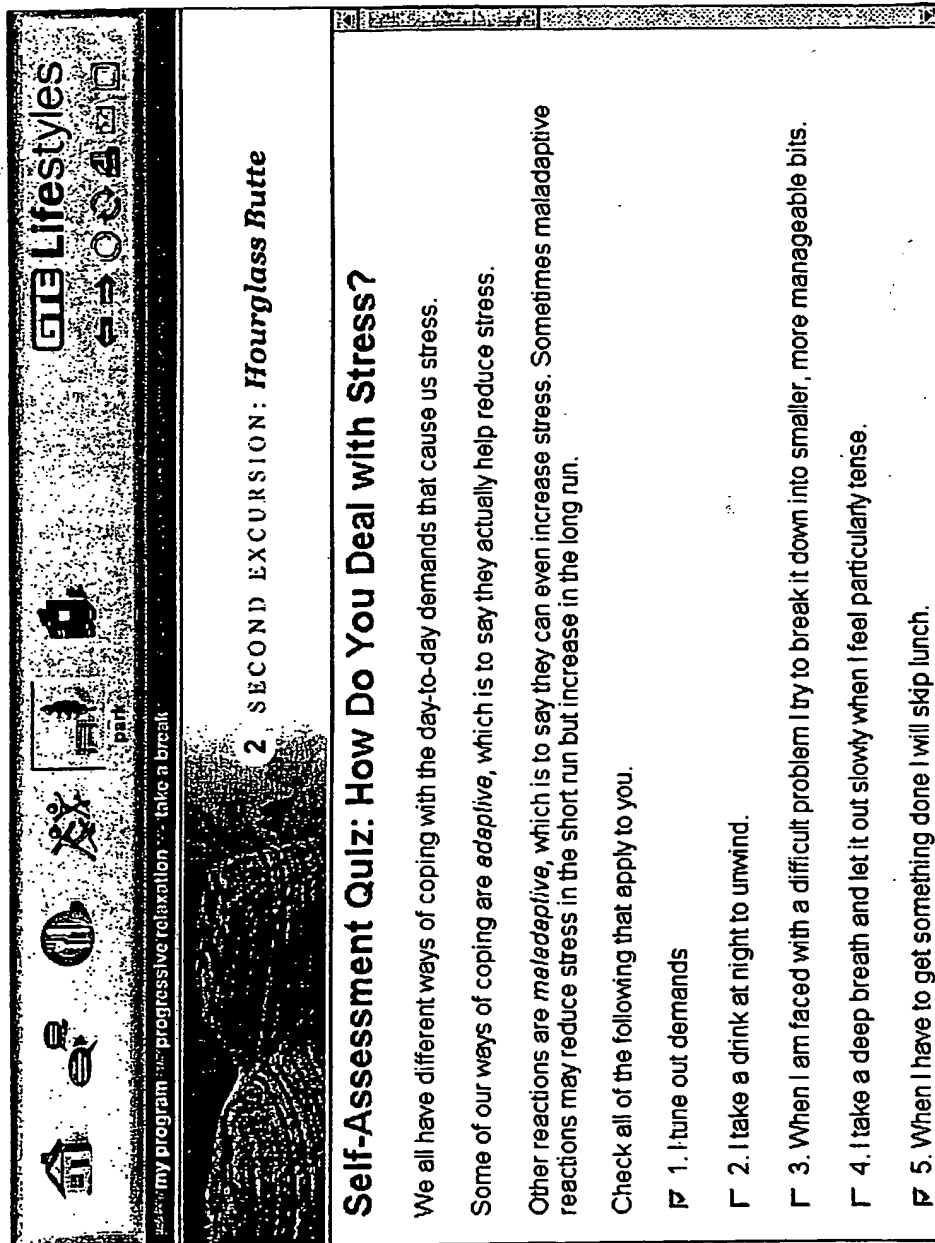
SUBSTITUTE SHEET (RULE26)

*Fig. 42*



SUBSTITUTE SHEET (RULE26)

Fig. 41



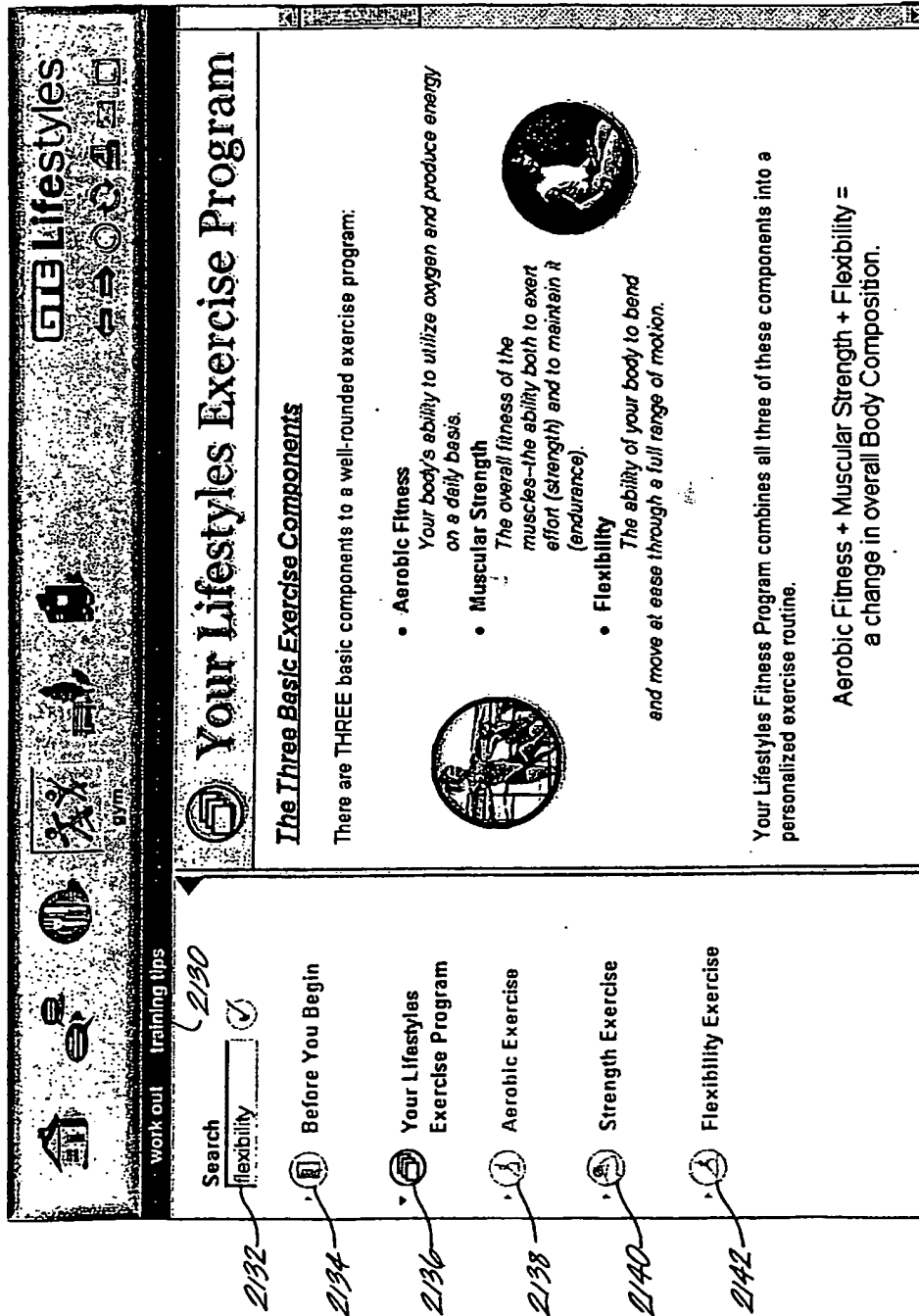
SUBSTITUTE SHEET (RULE26)

Fig. 40



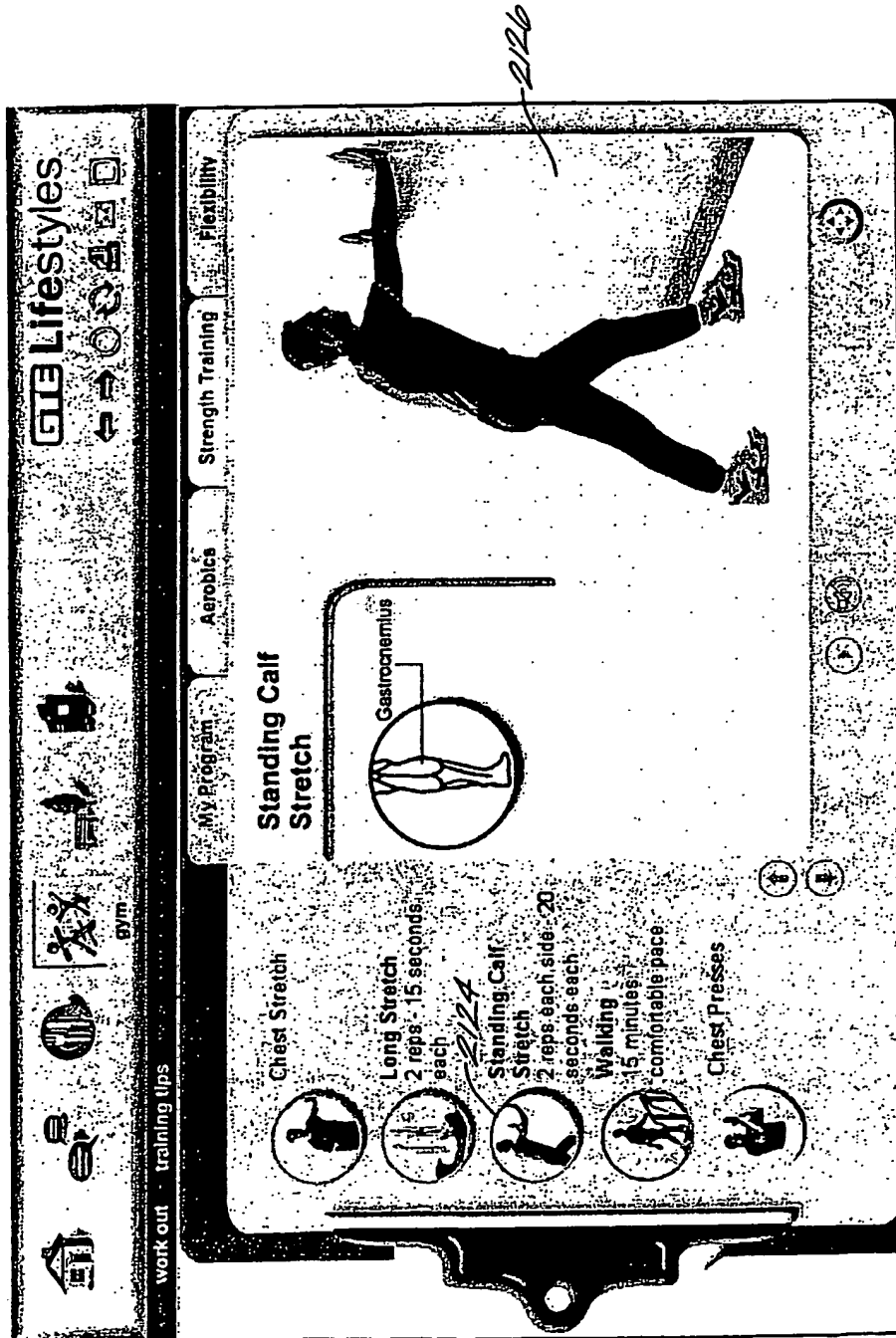
SUBSTITUTE SHEET (RULE26)

Fig. 39



SUBSTITUTE SHEET (RULE26)

*Fig. 3B*



SUBSTITUTE SHEET (RULE26)

*Fig. 37*

**GTE Lifestyles**

work out · training tips

My Program

**Shoulder Rolls**  
5 reps backward and forward

**Rotational Neck Stretch**  
2 reps each side · 10 seconds each

**Side Neck Stretch**  
2 reps each side · 10 seconds each

**Side Stretch**  
2 reps each side · 10 seconds each

**Mad Cat Stretch/Standing**  
2 reps each side · 10 seconds each

**Chest Stretch**  
2 reps each side · 10 seconds each

**Long Stretch**  
2 reps · 15 seconds each

**Standing Calf Stretch**  
2 reps each side · 20 seconds each

**Flexibility Warm-Up**

5 reps backward and forward

2 reps each side · 10 seconds each

2 reps each side · 10 seconds each

2 reps each side · 10 seconds each

2 reps each side · 10 seconds each

2 reps each side · 10 seconds each

2 reps · 15 seconds each

2 reps each side · 20 seconds each

**Strength Training**

**Aerobic Warm-Up**

5 minutes · slow easy pace

**Aerobic Training**

15 minutes · comfortable pace

**Flexibility**

**Your Exercise Program Is:**

**Shoulder Rolls**  
5 reps backward and forward

**Rotational Neck Stretch**  
2 reps each side · 10 seconds each

**Side Neck Stretch**  
2 reps each side · 10 seconds each

**Side Stretch**  
2 reps each side · 10 seconds each

**Mad Cat Stretch/Standing**  
2 reps each side · 10 seconds each

**Chest Stretch**  
2 reps each side · 10 seconds each

**Long Stretch**  
2 reps · 15 seconds each

**Standing Calf Stretch**  
2 reps each side · 20 seconds each

**Flexibility Warm-Up**

5 reps backward and forward

2 reps each side · 10 seconds each

2 reps each side · 10 seconds each

2 reps each side · 10 seconds each

2 reps each side · 10 seconds each

2 reps each side · 10 seconds each

2 reps · 15 seconds each

2 reps each side · 20 seconds each

**Warm-up**  
5 minutes · slow easy pace

**Walking**  
15 minutes · comfortable pace

**Aerobic Warm-Up**  
5 minutes · slow easy pace

**Aerobic Training**  
15 minutes · comfortable pace

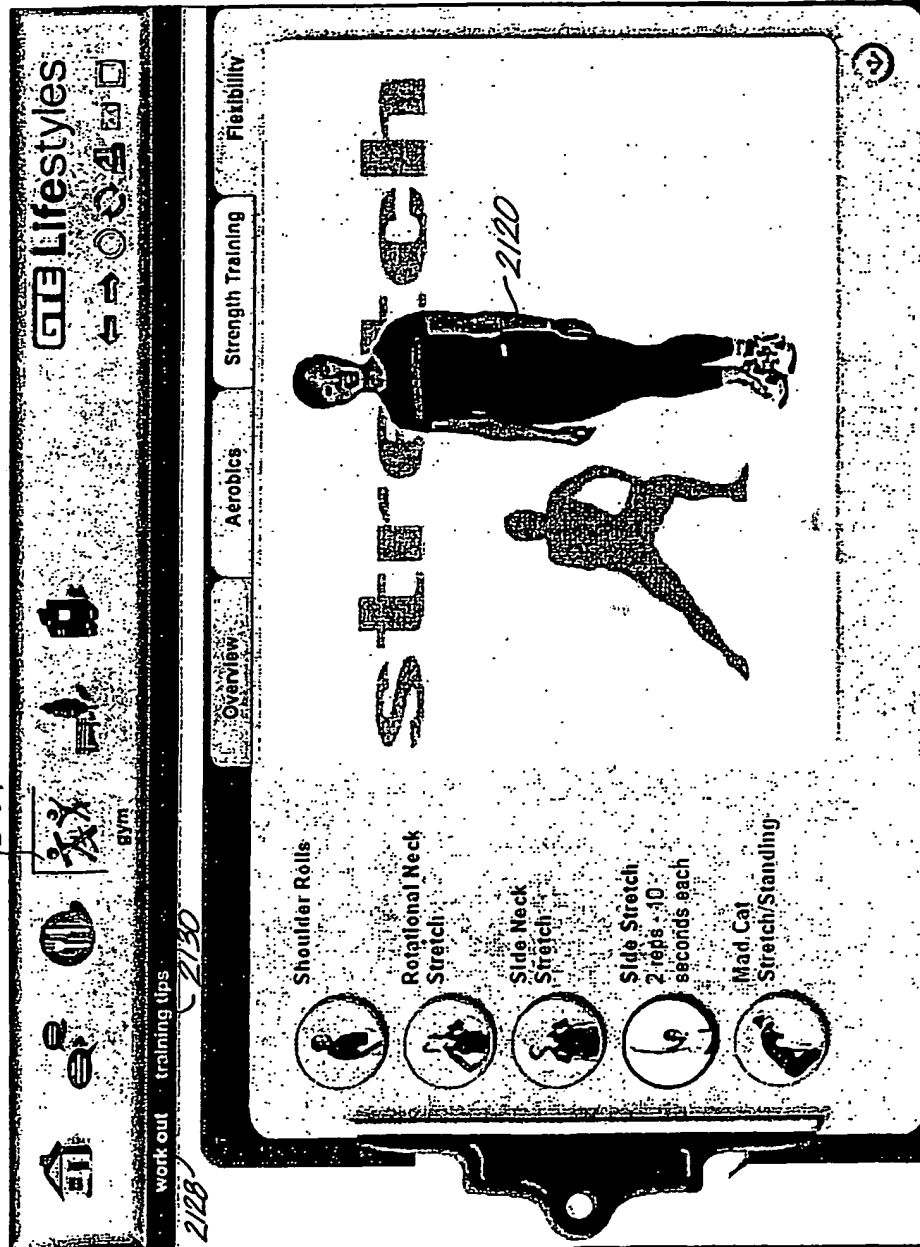
2128

2124

**SUBSTITUTE SHEET (RULE 26)**



Fig. 36



SUBSTITUTE SHEET (RULE26)

Fig. 35

3032

**GIE Lifestyles**

Home cooking food diary why eat?

**Chicken w/ Linguine, Leeks, and Tomatoes**

**Ingredients:** — 2110

1/2 teaspoon basil, dried	4 ounces linguine, dry
1/4 teaspoon ground black pepper	2 teaspoons soft margarine
1 cup low sodium chicken broth	nonstick cooking spray
4 4-ounce chicken breast halves, skinned and boned	1/4 teaspoon paprika
1/4 teaspoon garlic powder	1/4 teaspoon ground red pepper
3 cloves garlic, minced	1/8 teaspoon salt
1/8 teaspoon cumin, ground	1/4 teaspoon salt
3 cups leeks, sliced	3 cups fresh tomatoes, diced

**Cooking Instructions:** — 2112

Instructions... Place each chicken piece between 2 sheets of heavy-duty plastic wrap, and flatten to 1/4 inch thickness, using a meat mallet or rolling pin. Combine 1/4 teaspoon of salt, garlic powder, paprika, red pepper, black pepper, and cumin; sprinkle over both sides

**Servings:** 4

**Nutritional Information:** — 2116

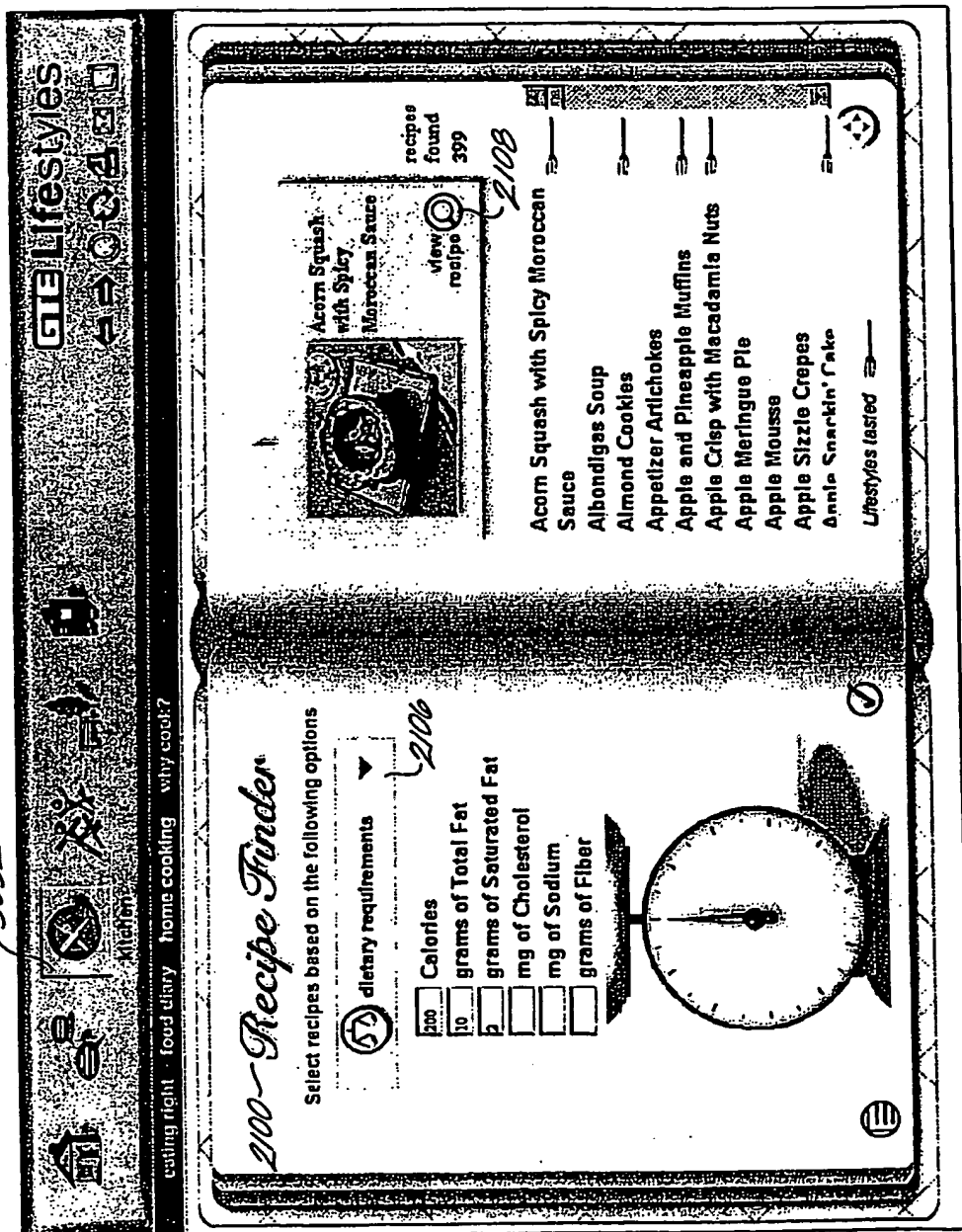
Calories: 330.27  
Total Fat: 4.86 gm  
Saturated Fat: 1.06 gm  
Cholesterol: 66.84 mg  
Sodium: 376.16 mg  
Fiber: 3.56 gm

**Cooking Time:**  
Preparation: 30 min  
Cooking: 30 min  
Total: 60 min

SUBSTITUTE SHEET (RULE26)

Fig. 3A

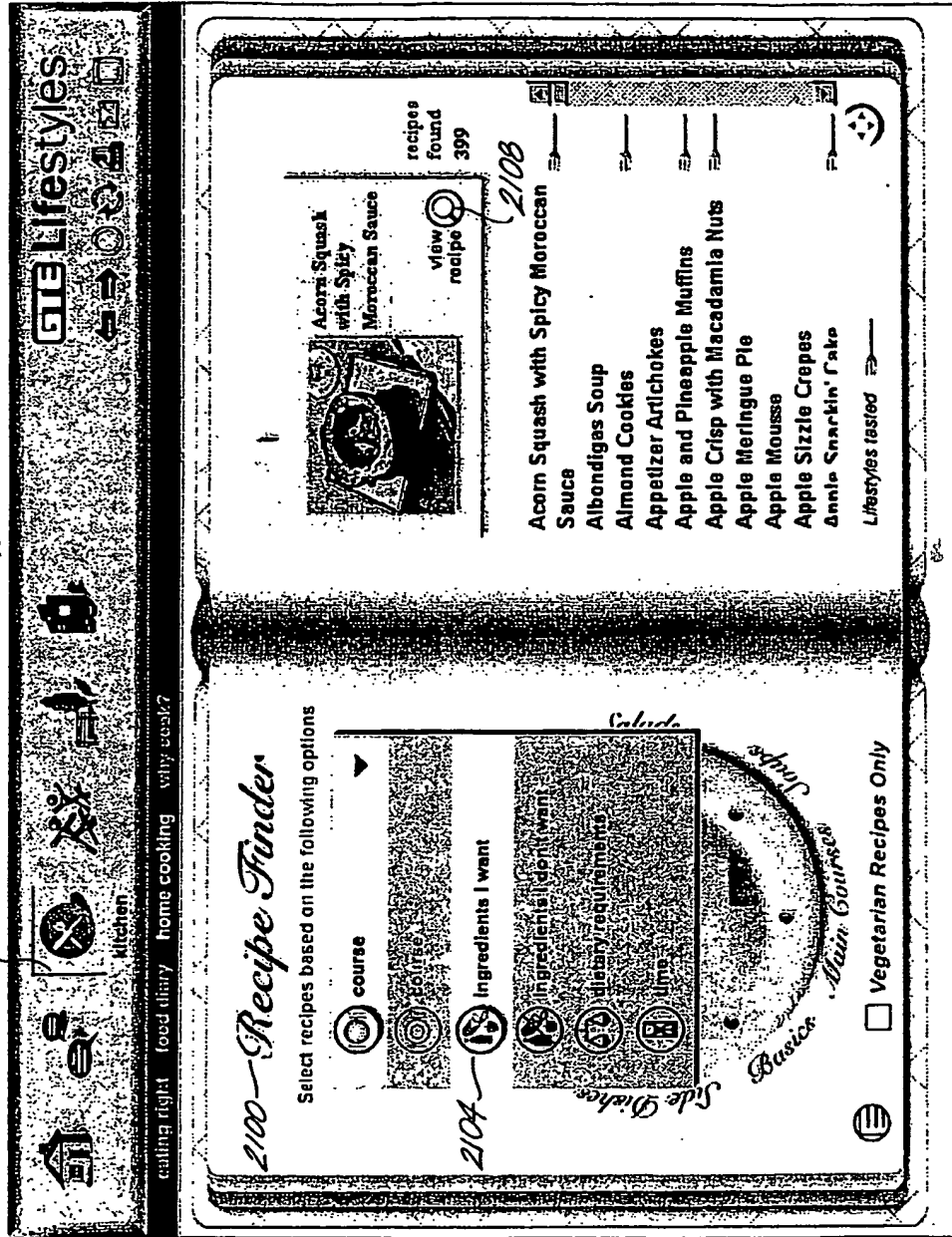
3032



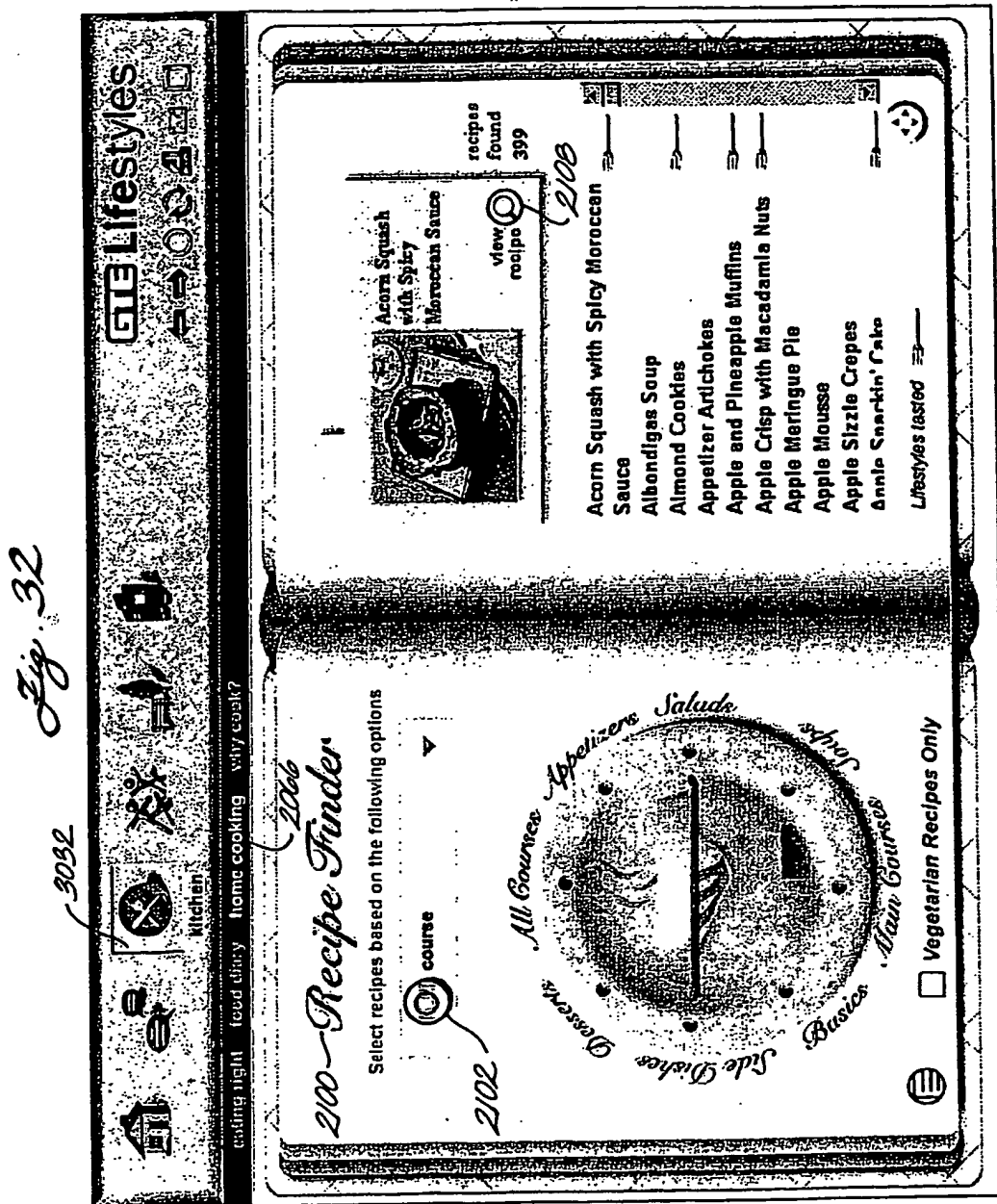
SUBSTITUTE SHEET (RULE26)

Fig. 33

3032



SUBSTITUTE SHEET (RULE26)



**SUBSTITUTE SHEET (RULE26)**

*Fig. 31*

3032

+20%

**Eating light food diary**    **kitchen**    **isn't cooking why eat?**

**Food**    **Servings**    **Time**    **Appetite**    **Emotions**    **Activity**    **Calories**

<b>Breakfast + P -</b>						
CORN FLAKES, RTE, 100 grams (Cereals ready-to-eat, KELLOGG, KELLOGG'S Corn Flakes)	2	6:00 am	3	☹	n/a	365
<b>Lunch + P -</b>						
DANISH PASTRY, LEMON, 1 oz	1	1:00 pm	4	☺	lunch meeting	105
Salmon Mousse Ravioli with e Light Tomato and Bechamel Sauce	2	1:00 pm	4	☺	n/a	304
<b>Dinner + P -</b>						
Fruit Kebabs with Honey						

**Total Calories** 2133  
 Cal from fat 33%  
 Total sat fat 8%  
 Cholesterol (mg) 101.47  
 Sodium (mg) 3308.78  
 Fiber (g or ans) 18.73

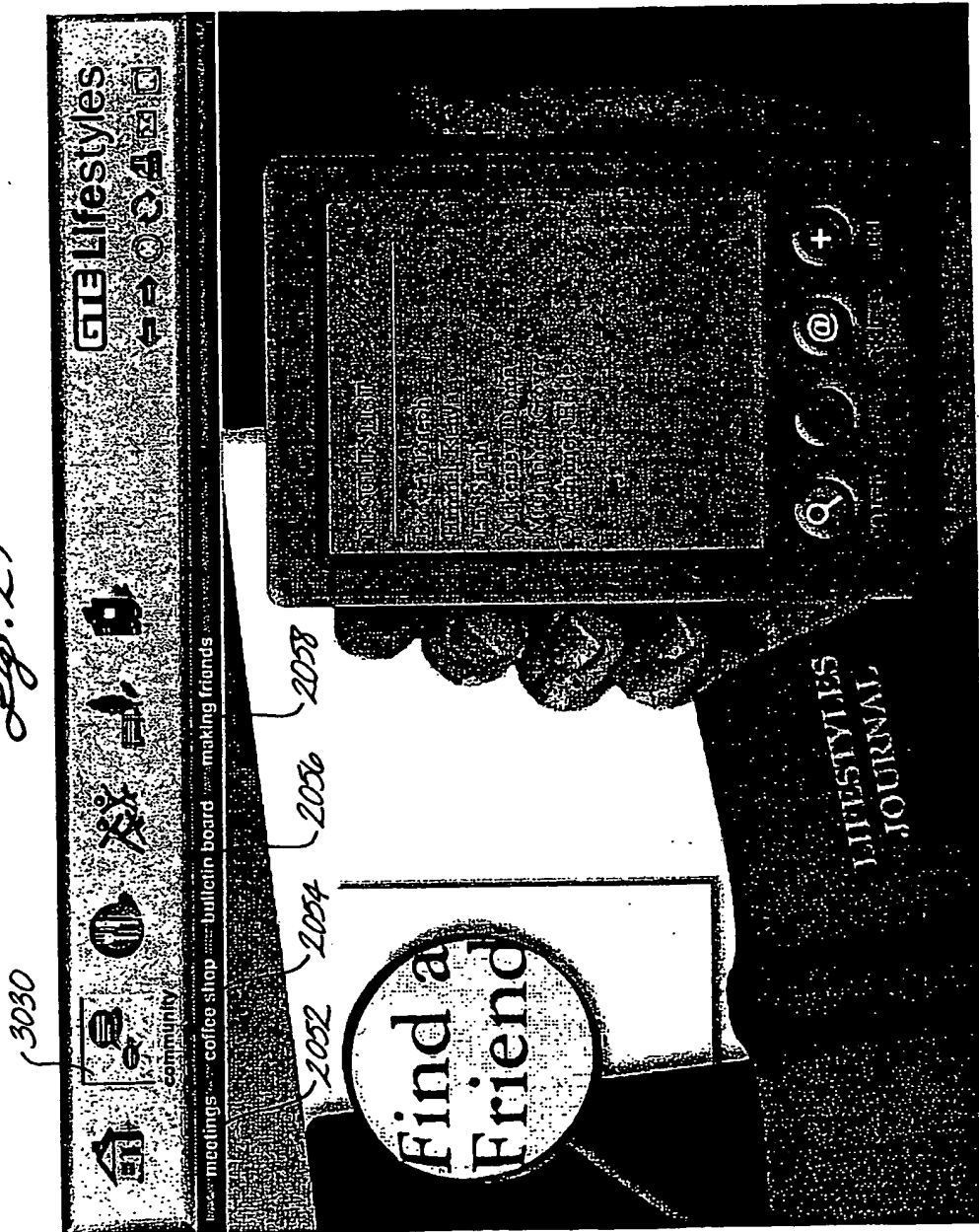
*Daily Totals*

2096 ☺

**SUBSTITUTE SHEET (RULE26)**

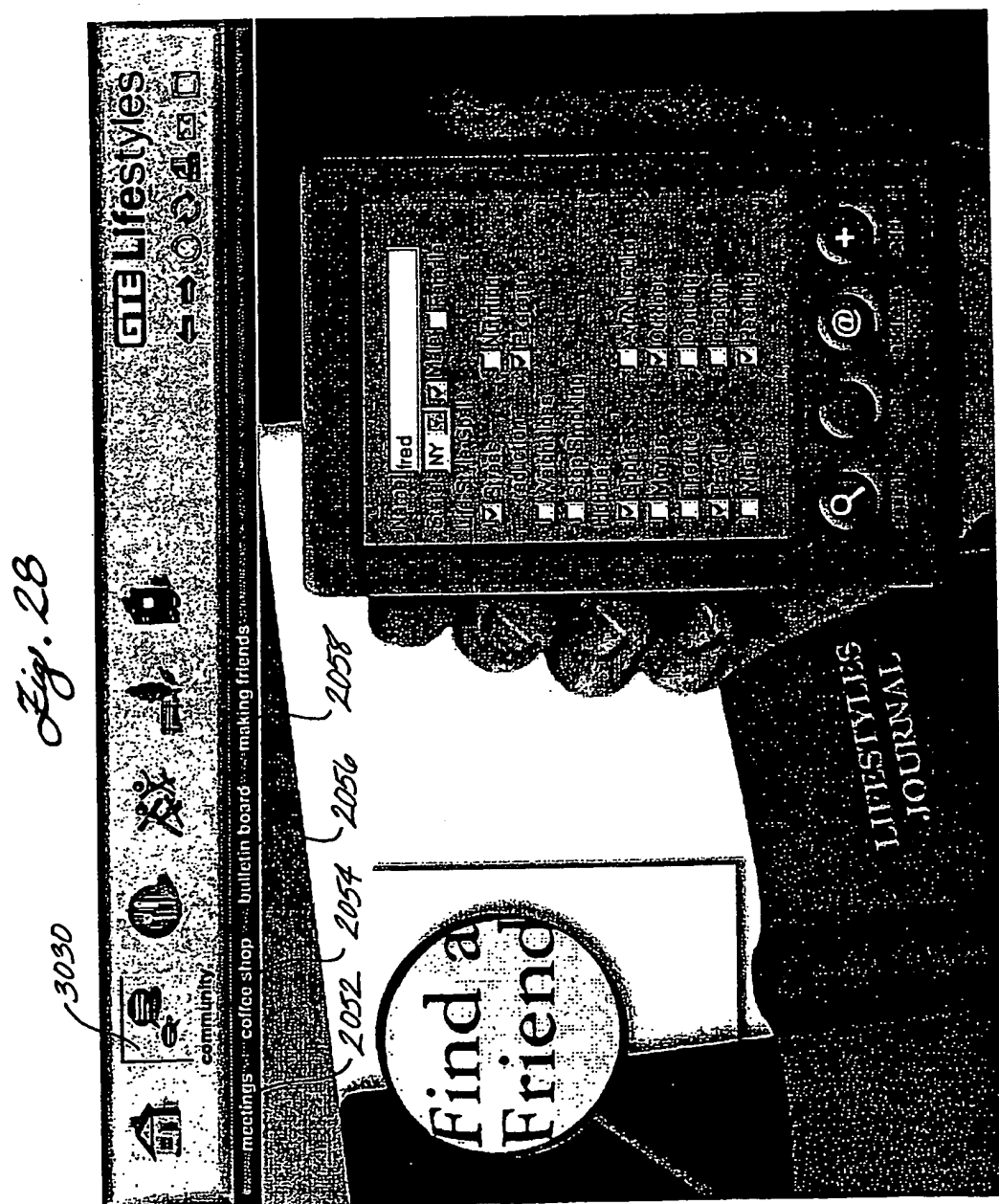
22

Fig. 29



SUBSTITUTE SHEET (RULE26)





# SUBSTITUTE SHEET (RULE26)

Fig. 27

3030

2040

2050

**4032** 4034 4036

community

bulletin board making friends

coffee shop

bulletin board

making friends

4038

**4032** 4034 4036

community

bulletin board making friends

coffee shop

bulletin board

making friends

4038

**4032** 4034 4036

community

bulletin board making friends

coffee shop

bulletin board

making friends

4038

**4032** 4034 4036

community

bulletin board making friends

coffee shop

bulletin board

making friends

4038

**4032** 4034 4036

community

bulletin board making friends

coffee shop

bulletin board

making friends

4038

**4032** 4034 4036

community

bulletin board making friends

coffee shop

bulletin board

making friends

4038

SUBSTITUTE SHEET (RULE26)

Fig. 26

3090

meetings coffee shop bulletin board making friends

4092 4034 4096

2040 Cardiac

2042 Stress Management

2044 Weight Management

2046 Health & Wellness

2048 Smoking Cessation

Session 1:  
Why quit?  
A healthy America

Session 2:  
Coping with the Urge/  
Withdrawal Symptoms  
Conquering the Urge

3090

community

4092 4034 4096

2040 Cardiac

2042 Stress Management

2044 Weight Management

2046 Health & Wellness

2048 Smoking Cessation

Session 1:  
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Conquering the Urge

3090

meetings coffee shop bulletin board making friends

4092 4034 4096

2040 Cardiac

2042 Stress Management

2044 Weight Management

2046 Health & Wellness

2048 Smoking Cessation

Session 1:  
Why quit?  
A healthy America

Session 2:  
Coping with the Urge/  
Withdrawal Symptoms  
Conquering the Urge

3090

community

4092 4034 4096

2040 Cardiac

2042 Stress Management

2044 Weight Management

2046 Health & Wellness

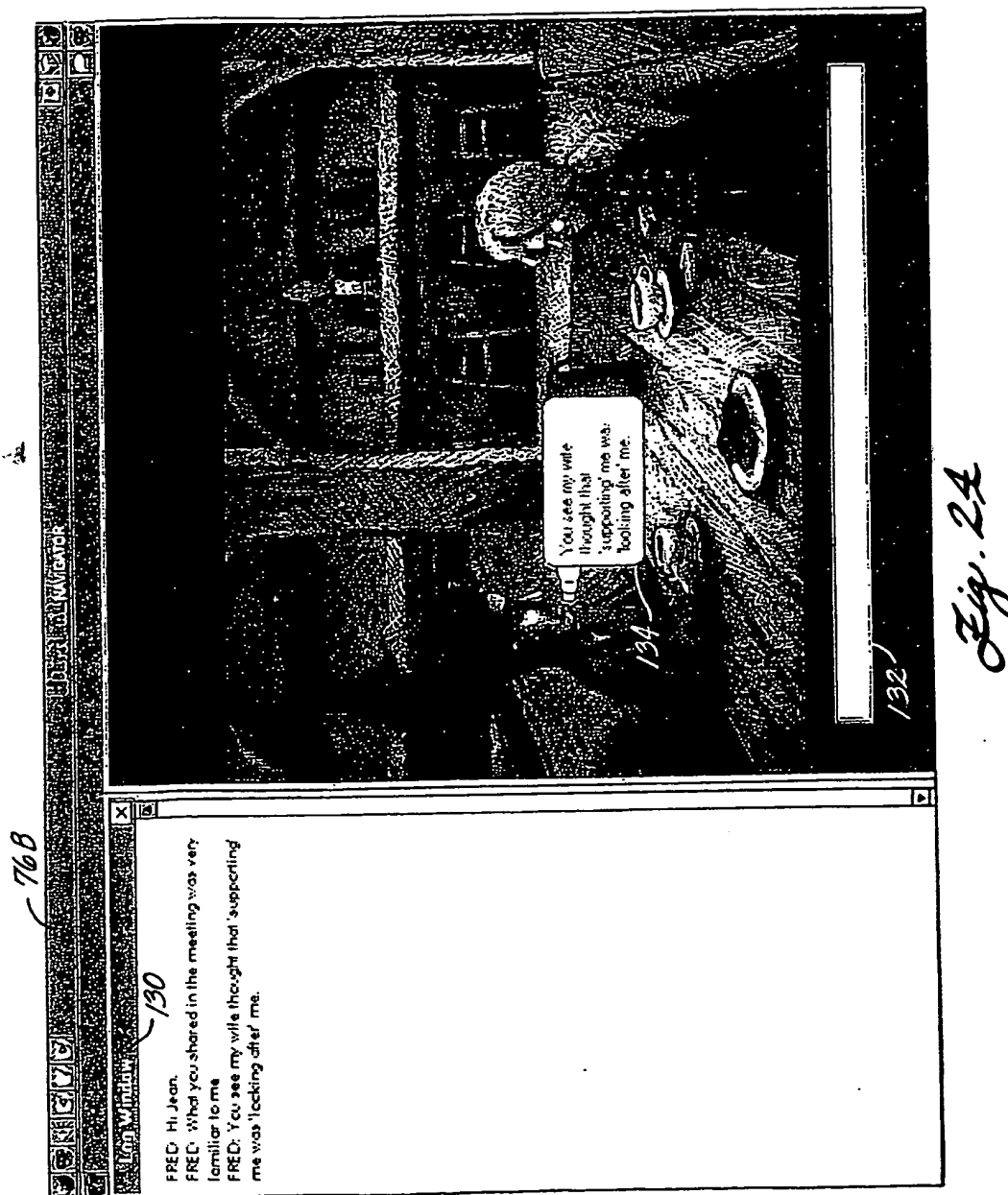
2048 Smoking Cessation

Session 1:  
Why quit?  
A healthy America

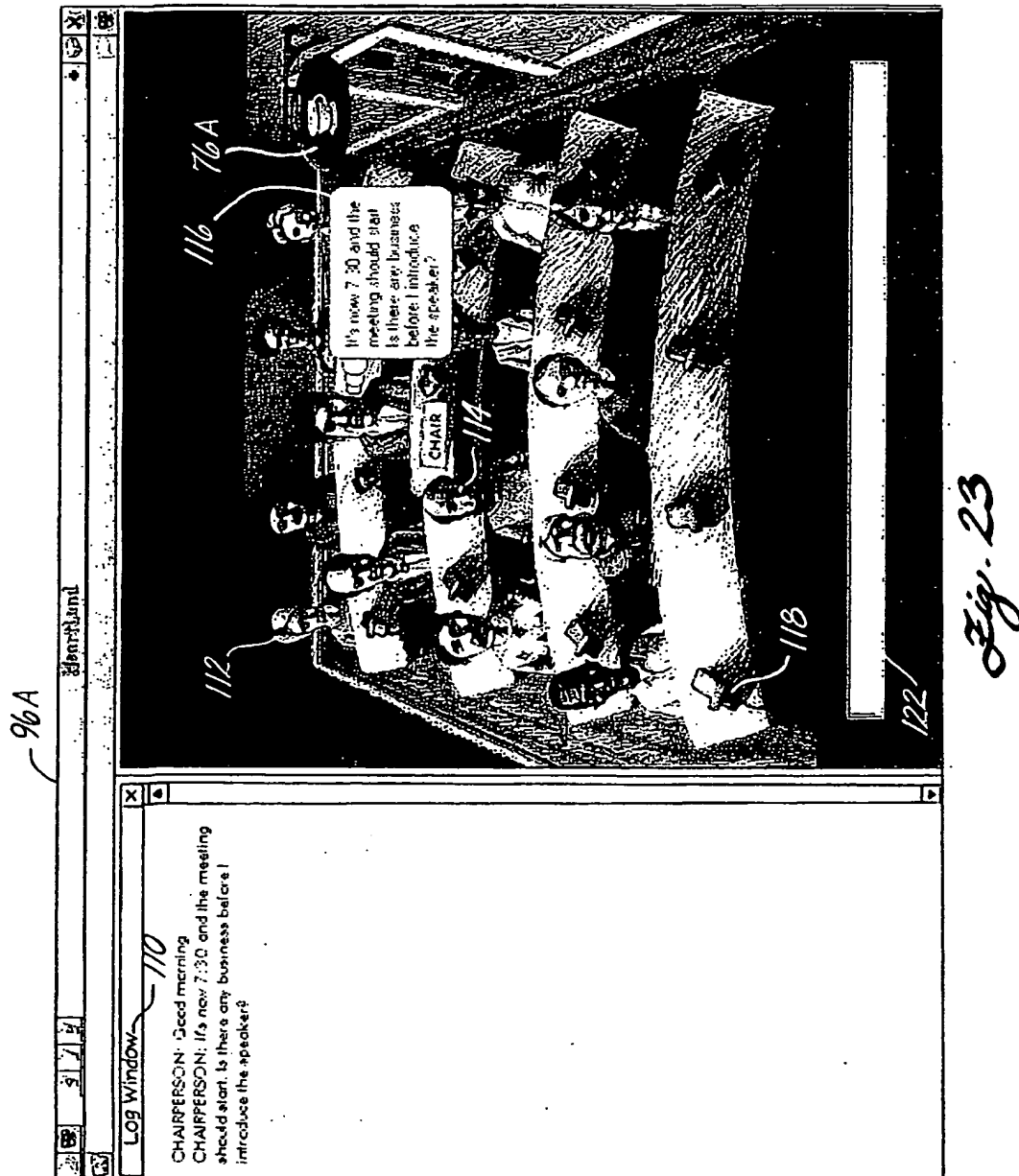
Session 2:  
Coping with the Urge/  
Withdrawal Symptoms  
Conquering the Urge

SUBSTITUTE SHEET (RULE26)



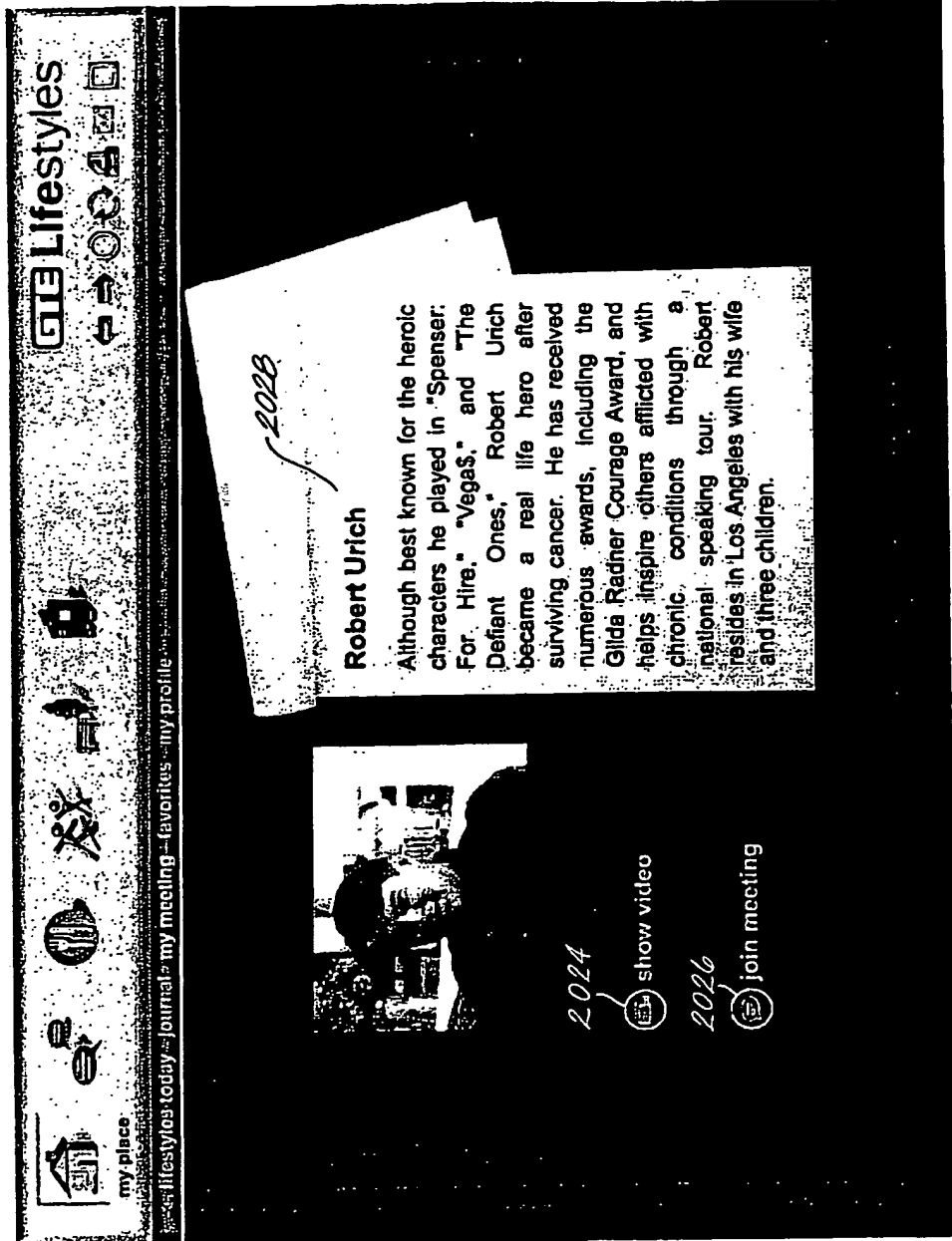


SUBSTITUTE SHEET (RULE26)



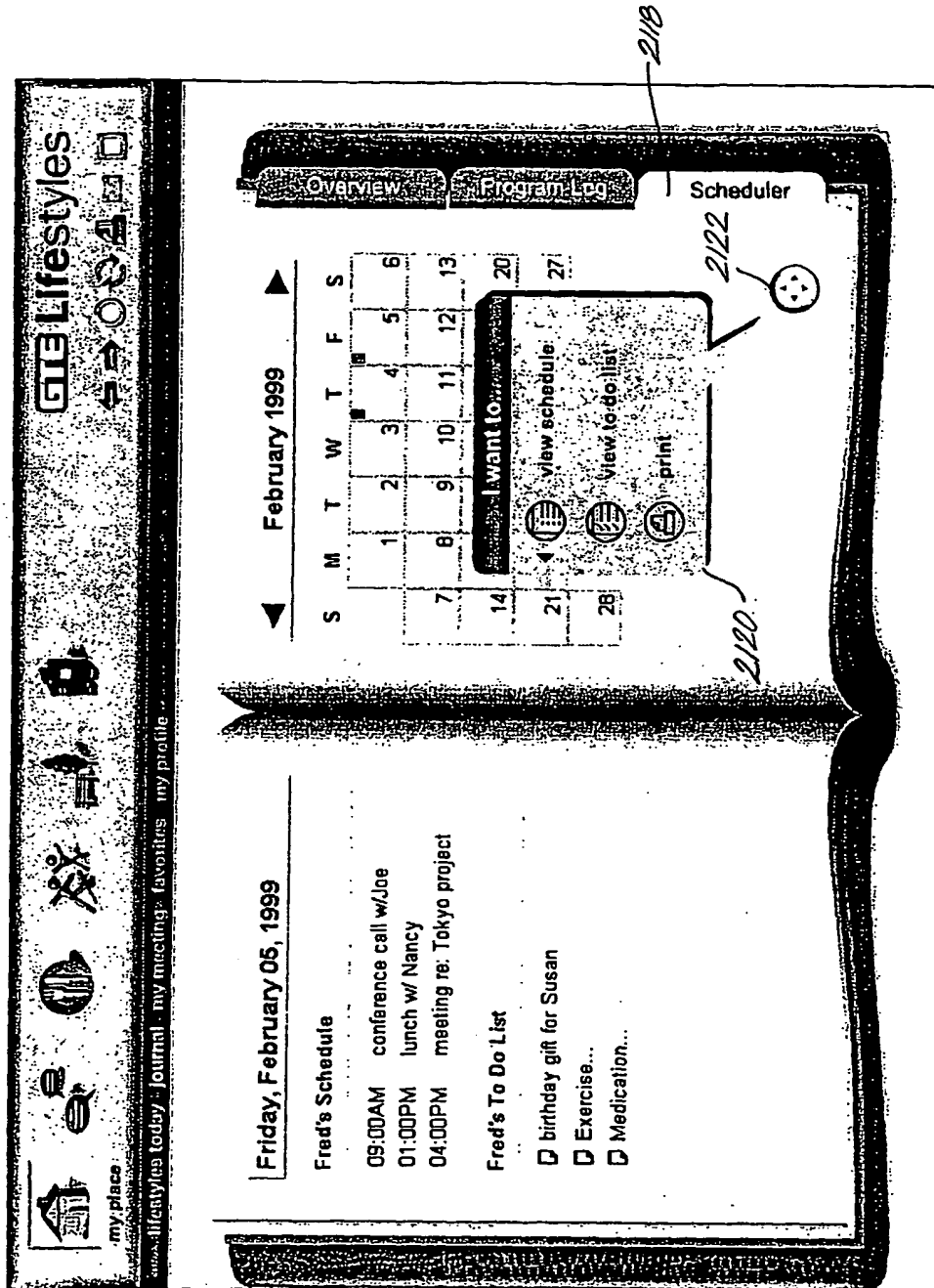
SUBSTITUTE SHEET (RULE26)

Fig. 22



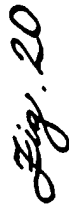
SUBSTITUTE SHEET (RULE26)

Fig. 21

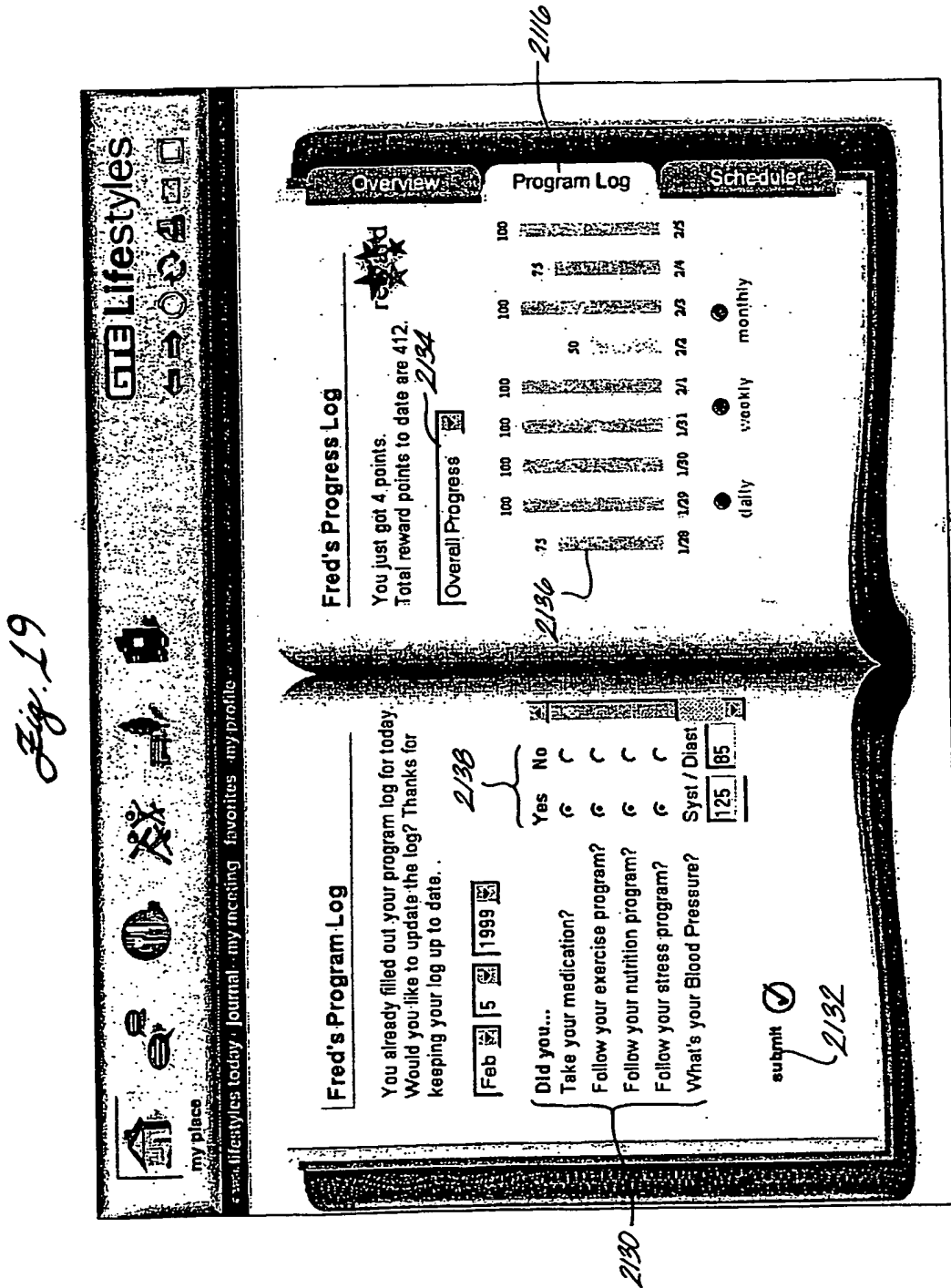


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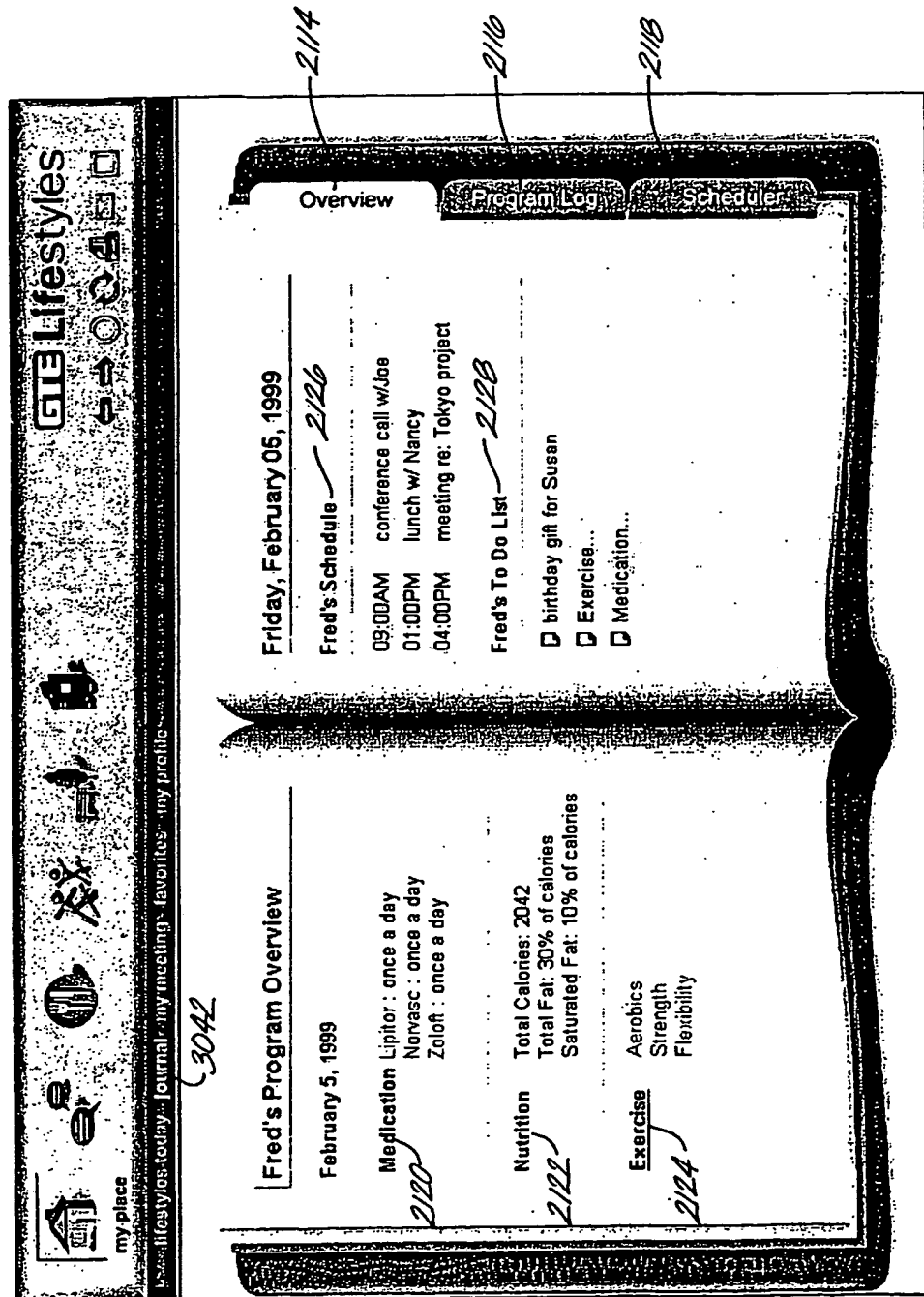


[illegible]

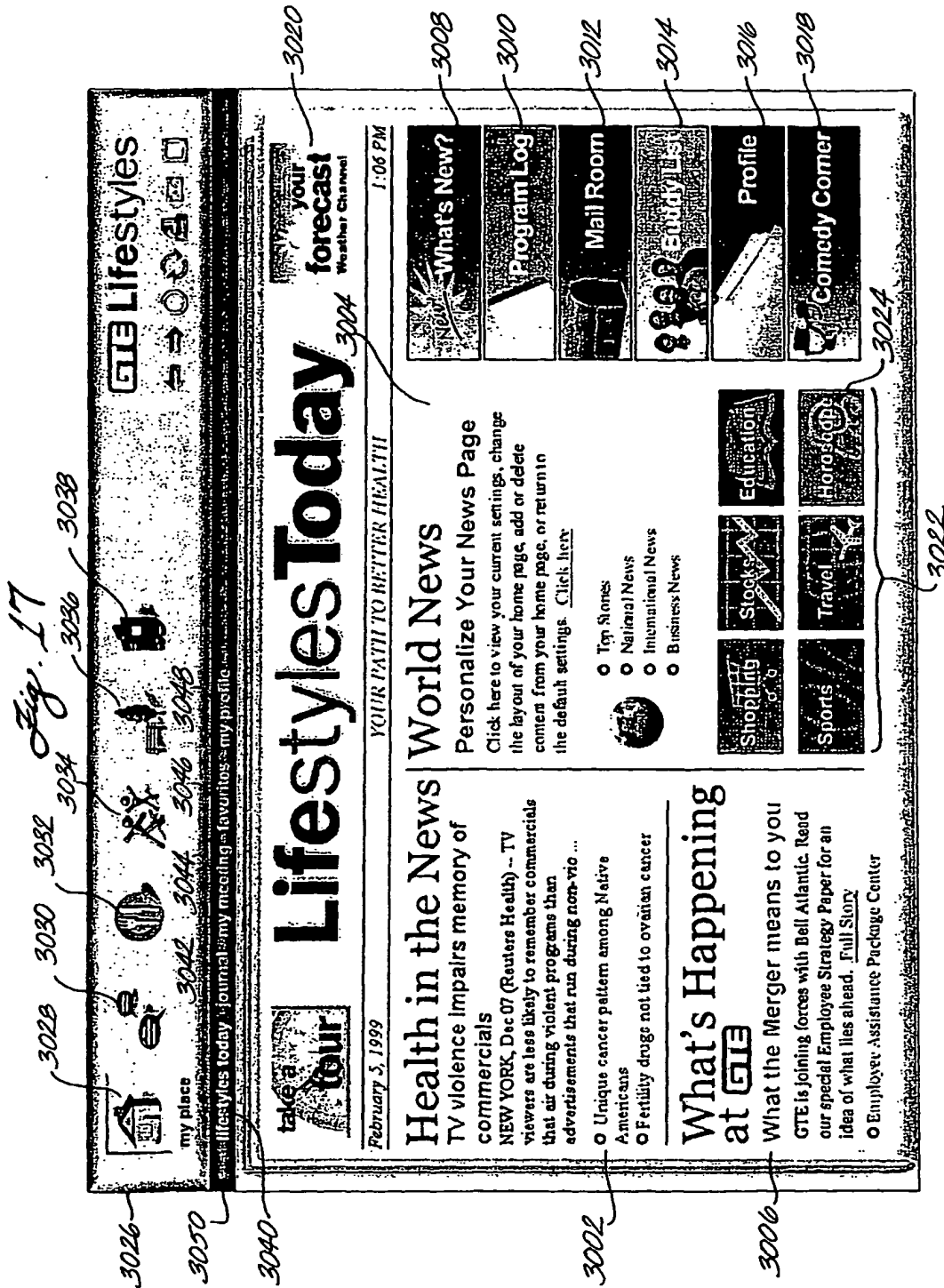
**SUBSTITUTE SHEET (RULE26)**



**SUBSTITUTE SHEET (RULE26)**



**SUBSTITUTE SHEET (RULE26)**



SUBSTITUTE SHEET (RULE 26)

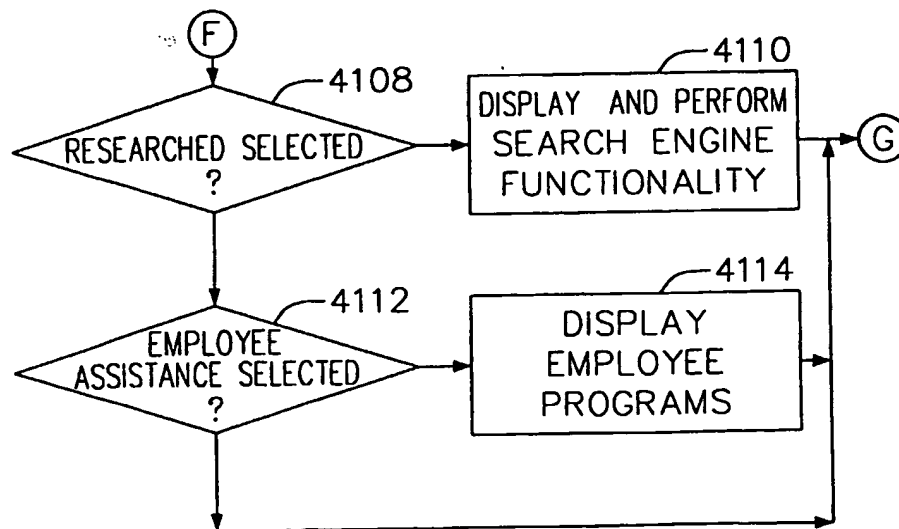
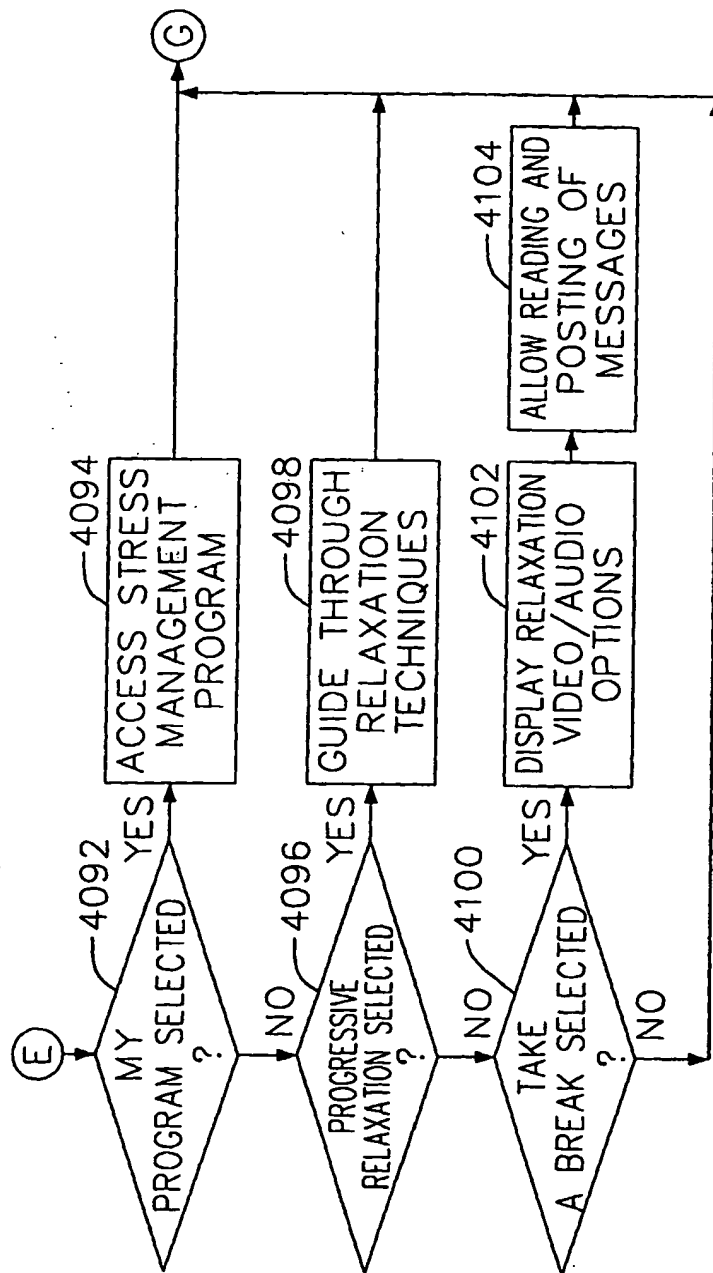
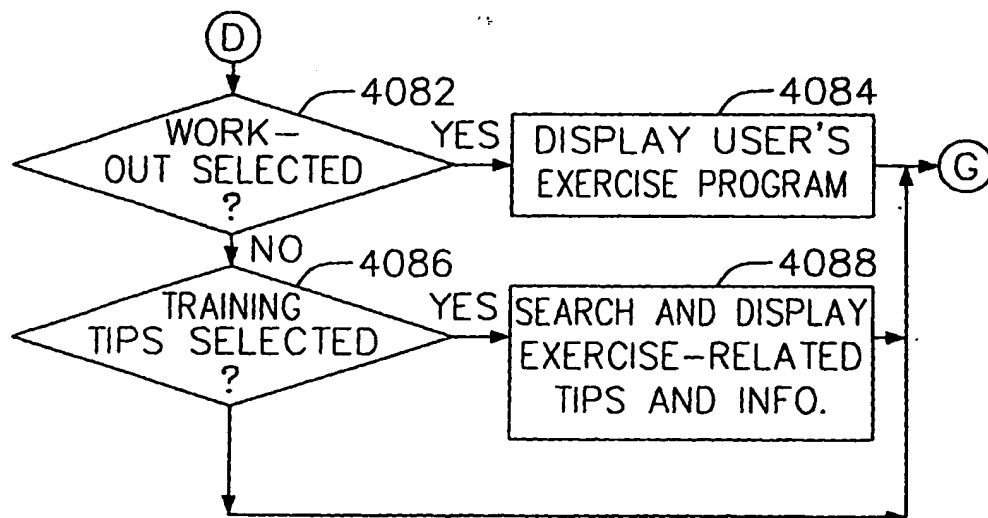
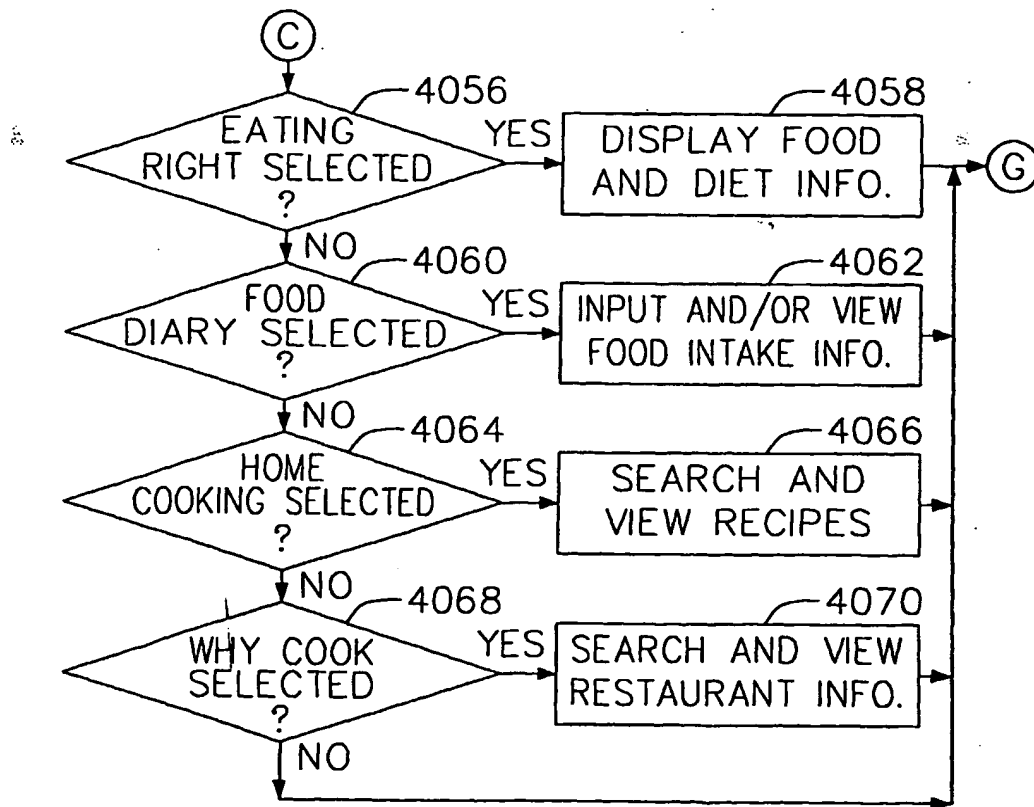
**FIG. 16G****SUBSTITUTE SHEET (RULE26)**

FIG. 16F



SUBSTITUTE SHEET (RULE26)

*FIG. 16E***SUBSTITUTE SHEET (RULE26)**

**FIG. 16D****SUBSTITUTE SHEET (RULE26)**